



# **30th PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-09-01)**

PLENARY MEETING, 20-24 APRIL 2009, GALWAY

**Edited by John Casey & Hendrik Dörner**

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## TABLE OF CONTENTS

<b>1.</b>	<b>Introduction.....</b>	<b>6</b>
<b>2.</b>	<b>List of participants.....</b>	<b>6</b>
<b>3.</b>	<b>Information from the Commission – Organisational matters .....</b>	<b>8</b>
<b>3.1.</b>	<b>INFORMATION FROM DG MARE .....</b>	<b>8</b>
<b>3.2.</b>	<b>INFORMATION FROM THE STECF SECRETARIAT .....</b>	<b>9</b>
<b>4.</b>	<b>Assessment of working group reports.....</b>	<b>11</b>
<b>4.1.</b>	<b>Annual Economic Report (AER).....</b>	<b>11</b>
<b>4.2.</b>	<b>Workshop on Mediterranean Stock Assessment Standardization SG-MED workshop 09-01 (formerly labelled as SG-ECA/RST/MED 09-01).....</b>	<b>13</b>
<b>4.3.</b>	<b>SGMED-09-01 Black Sea .....</b>	<b>19</b>
<b>4.4.</b>	<b>SGRN/ECA 09-01: Evaluation of data collection programmes for the 2009-2010 period .....</b>	<b>22</b>
<b>4.5.</b>	<b>SGMOS-09-01 Joint Workshop with ICES.....</b>	<b>25</b>
<b>5.</b>	<b>ADDITIONAL REQUESTS SUBMITTED TO THE STECF PLENARY BY THE COMMISSION .....</b>	<b>29</b>
<b>5.1.</b>	<b>Ecosystem approach and bio-economic modelling .....</b>	<b>29</b>
<b>5.2.</b>	<b>Evaluation of Management and Recovery Plans already in place – Possible terms of reference and evaluation descriptors related to socio-economic information.....</b>	<b>37</b>
<b>5.3.</b>	<b>Mediterranean Sea and Black Sea: Italian national management plans.....</b>	<b>40</b>
<b>5.4.</b>	<b>Mediterranean Sea and Black Sea: Fishing Protected Areas in the Mediterranean Sea .....</b>	<b>51</b>
<b>5.5.</b>	<b>Mediterranean Sea and Black Sea: Management rules and measures for GCFM GSA 6 and GSA 17.....</b>	<b>52</b>
<b>5.6.</b>	<b>Atlantic waters and bordering seas: Possible exemptions in application of Art. 11(2) to R(EC) No 1342/2008.....</b>	<b>52</b>
<b>5.7.</b>	<b>Atlantic waters and bordering seas: Conditions regarding the release of common skate, undulate ray, white skate and angel shark .....</b>	<b>83</b>
<b>5.8.</b>	<b>Atlantic waters and bordering seas: Peer review of the report delivered by AZTI with a new HCR.....</b>	<b>85</b>
<b>5.9.</b>	<b>International waters and RFMOs: Possible framework related to scientific advice on highly migratory stocks.....</b>	<b>88</b>
<b>6.</b>	<b>Contact details of participants.....</b>	<b>91</b>
<b>7.</b>	<b>Annexes .....</b>	<b>95</b>

<b>7.1.</b>	<b>Annex for section 5.8: Comparison between Rule B and E of the LTMP of BoB</b>	
	<b>Anchovy .....</b>	<b>96</b>

# **30<sup>th</sup> PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-09-01)**

## **PLENARY MEETING**

**20-24 APRIL 2009, GALWAY**

### **1. INTRODUCTION**

STECF met at the Marine Institute, Galway (Ireland), from 20 to 24 April 2009. The Chairman of the STECF, Dr John Casey, opened the plenary session at 15:00h. The terms of reference for the meeting were reviewed and the meeting agenda agreed. The session was managed through alternation of Plenary and working group meetings. Rapporteurs for each item on the agenda were appointed and are identified in the list of participants. The meeting closed at 16:00h on 24 April.

### **2. LIST OF PARTICIPANTS**

Contact details are attached in ANNEX I.

#### **MEMBERS OF THE STECF:**

Abella, J. Alvaro  
Andersen, Jesper Levring (Vice-chair; Rapporteur Ecosystem approach and bio-economic models)  
Bailey, Nick (Rapporteur, Effort exemption requests)  
Casey, John (Chair)  
Daures, Fabienne (Rapporteur SGRN report)  
Di Natale, Antonio (Vice-chair; Rapporteur Coordination within RFMOs)  
Dobby, Helen (Rapporteur, Effort exemption requests)  
Döring, Ralf  
Figueiredo, Ivone (Rapporteur, testing step HCRs)  
Graham, Norman (Rapporteur, Conditions regarding the release of common skate, undulate ray, white skate and angel shark)  
Gascuel, Didier (Rapporteur, Ecosystem approach and bio-economic models)  
Gustavsson, Tore  
Hatcher, Aaron  
Kirkegaard, Eskild (Rapporteur, Evaluation of Management and recovery plans)  
Kraak, Sarah (Rapporteur Effort exemption requests)  
Kuikka, Sakari (Joint ICES – STECF workshop)  
Martin, Paloma (Rapporteur, Management rules and measures for GFCM GAS 6 & 17)  
Parkes, Graeme (Rapporteur, Mediterranean assessments)  
Sabatella, Evelina (Rapporteur, AER report)  
Somarakis, Stylianos (Rapporteur Italian national management plans)  
Stransky, Christoph (Rapporteur, Effort exemption requests)  
Vanhee, Willy (Rapporteur, Black Sea)  
Van Hoof, Luc  
Van Oostenbrugge, Hans  
Virtanen, Jarno

**INVITED EXPERTS:**

Connolly, Paul  
Daslakov, Georgi

**EUROPEAN COMMISSION:**

**DG- Maritime Affairs and Fisheries (MARE)**

Calvo, Angel  
Daniel, Patrick

**Joint Research Centre (JRC)**

JRC experts:

Guillen, Jordi (Preparation of Annual Economic Report 2009)  
Rätz, Hans-Joachim (Fishing effort regimes, Mediterranean and Black Seas)

STECF secretariat:

Dörner, Hendrik

**Members of the STECF not present:**

The following members of the STECF informed the secretariat that they were not able to attend the meeting:

Cardinale, Massimiliano  
Curtis, Hazel  
Polet, Hans  
Prellezzo, Raul  
Balguerías, Eduardo

### **3. INFORMATION FROM THE COMMISSION – ORGANISATIONAL MATTERS**

#### **3.1. INFORMATION FROM DG MARE**

##### Replacement of STECF members – State of the play

The Commission informed the STECF plenary that the replacement process of two of its members (Hans-Joachim Rätz & Jordi Garcia Guillen), who left to join the JRC team, had finally been launched few weeks ago. A letter detailing expected profiles, which are closed to those corresponding to the two previous STECF plenary members – one economist involved in research programs dedicated to the Mediterranean Sea fisheries and one biologist dealing with data management, fisheries and stock assessment, has been sent to all scientists registered on the reserve list, both to inform them on such a process and to ask them to express their candidature for membership by sending an updated version of their Curriculum Vitae to the Commission.

The deadline attached to this first step of the process had been fixed mid-April and applications from several candidatures have already been received. The Commission, which has the legal responsibility to designate STECF members, will examine all applications during the last week of April. In the meantime, the Commission would like to involve the STECF Board and the STECF-secretariat in the selection process.

The required administrative tasks make the new appointments official will take place during May and June in order that the appointees are able to participate in STECF Summer plenary, which is to take place in July 2009 in Copenhagen.

##### Rules to be implemented in case of *ad hoc* contracts

The Commission reminded the STECF Plenary about the possibility for the Commission to arrange ad hoc contracts with individual scientists to facilitate the work of STECF. Such contracts are not restricted to STECF members.

The Commission clarified the framework related to such ad hoc contracts. Two separate situations are foreseen for the arrangement of such contracts. The first relates to urgent and demanding tasks that have to be dealt with by STECF by written procedure; the second situation is to carry out preliminary work to allow the STECF plenary or STECF working groups to dedicate most of their meeting time to analysis and discussion.

The first case, related to STECF opinion requested by written procedure, will only be justified in exceptional circumstances and the Commission intends set out the criteria to be used both to justify the need for a STECF consultation by written procedure, which may be possibly eased by preliminary analysis to be carried out through ad hoc contracts, and to avoid overburdening an already heavy workload for STECF.

The second case, related to planned STECF work programmes would have to be discussed by the end of each year when the flow will be open between the STECF Board the STECF-secretariat and the Commission to identify further needs for advice to be delivered within the following year. Needs for data management, preliminary analysis and preparatory works possibly supporting such advice would have to be expressed then and evaluated between the DG Mare and the STECF. If such needs can be addressed through ad hoc contracts, these ad hoc contracts will have to be



managed directly by the DG Mare after having consulted the STECF board and the STECF secretariat both on possible scientists to be entrusted with these preparatory tasks and on the cost implications of commissioning the work

Nevertheless if such needs are to be identified afterwards within the year when discussing Terms of Reference to be addressed to STECF working groups or STECF plenary, a similar process will be set out before launching any ad hoc contracts.

### **3.2. INFORMATION FROM THE STECF SECRETARIAT**

#### JRC experts in STECF

H. Dörner (JRC, STECF secretariat) reiterated the information provided at the November 2008 STECF plenary meeting, that DG MARE's legal Unit have indicate that JRC scientists should be considered expert participants in STECF. This also includes the possibility of JRC scientists being chairpersons of STECF Working Groups. JRC scientists participating at STECF meetings as experts or chairpersons have to provide declarations of interest, commitment and confidentiality as any other expert.

#### Provision of documents for reimbursements

Meeting participants who need to provide missing documents for reimbursement after a meeting took place are requested to send the documents to the functional mailbox [stecf-payments@jrc.it](mailto:stecf-payments@jrc.it) and NOT to the secretariat's or JRC staff email addresses.

#### Publication of STECF reports

H. Dörner informed the Committee that since the November 2008 STECF plenary meeting 15 STECF reports and two STECF opinions by written procedure formatted in the format of JRC, scientific and technical reports had received ISBN numbers.

1. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGMED-08-04 Working Group on the Mediterranean Part IV. JRC, scientific and technical report, ISBN 978-92-79-10939-3, 2008.
2. 29th Plenary Meeting Report of the Scientific, Technical and Economic Committee for Fisheries (Plen-08-03). JRC, scientific and technical report, ISBN 978-92-79-10940-9, 2008.
3. Scientific, Technical and Economic Committee for Fisheries (STECF) Opinion by Written Procedure - Evaluation of cod catches in ICES Subdivisions 27 and 28 of the Baltic Sea. JRC, scientific and technical report, ISBN 978-92-79-10942-3, 2008.
4. Scientific, Technical and Economic - Committee for Fisheries (STECF) - Review of Scientific Advice for 2009 - Consolidated Advice on Stocks of Interest to the European Community. JRC, scientific and technical report, ISBN 978-92-79-10866-2, 2008.
5. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the Working Group on research needs (SGRN) - Evaluation of 2007 national data collection programs undertaken under Commission Regulation (EC) NO 1639/2001. JRC, scientific and technical report, ISBN 978-92-79-10867-9, 2008.

6. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGMOS-08-01 Working group on the reduction of discarding practices. JRC, scientific and technical report, ISBN 978-92-79-07452-3, 2008.
7. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGRST-08-03 Working Group on Fishing Effort Regime. JRC, scientific and technical report, ISBN, 978-92-79-09688-4, 2008.
8. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the Working Group on Harvest Control Rules (SGRST 08-02). JRC, scientific and technical report, ISBN 978-92-79-10478-7, 2008.
9. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the Working Group on the Balance between Fishing Capacity and Resources: Part II (SGECA/SGRST 08-01). JRC, scientific and technical report, ISBN 978-92-79-10480-0, 2008.
10. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the Working Group on balance between resources and their exploitation (SGBRE) Northern hake long-term management plan impact assessment (SGBRE-07-05). JRC, scientific and technical report, ISBN 978-92-79-11043-6, 2008.
11. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the Working Group on balance between resources and their exploitation (SGBRE) Northern hake long-term management plans (SGBRE-07-03). JRC, scientific and technical report, ISBN 978-92-79-11044-3, 2008.
12. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the Working Group on Research Needs Review of list of surveys at sea (Appendix XIV OF EU Commission Regulation N°1581/2004) with their priorities (SGRN 07-01). JRC, scientific and technical report, ISBN 978-92-79-11054-2, 2008.
13. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGMOS-07-01 Working group on the Evaluation of "Policy statement harvest rules". JRC, scientific and technical report, ISBN 978-92-79-11059-7, 2008.
14. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGMED-08-03 Working Group on the Mediterranean Part III Joint Black Sea Working Group. JRC, scientific and technical report, ISBN 978-92-79-11055-9, 2008.
15. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGMED-08-01 Working Group on the Mediterranean Part I. JRC, scientific and technical report, ISBN 978-92-79-11089-4, 2008.
16. Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGMED-08-02 Working Group on the Mediterranean Part II. JRC, scientific and technical report, ISBN 978-92-79-11091-7, 2008.
17. Scientific, Technical and Economic Committee for Fisheries (STECF) Opinion by Written Procedure - Evaluation of the Management Plans for certain fisheries in the Mediterranean Sea, submitted by the French Authorities. JRC, scientific and technical report, ISBN 978-92-79-11092-4, 2008.

Additional requests for ISBN numbers for remaining reports of meetings in 2008 and 2007 have been submitted by the secretariat.

#### **4. ASSESSMENT OF WORKING GROUP REPORTS**

##### **4.1. Annual Economic Report (AER)**

STECF is requested to review the report of the **SGECA-09-01** of March 9 – 13, 2009 (Ispra) meeting, evaluate the findings and make any appropriate comments and recommendations.

##### **Background**

STECF is requested to review the "Annual Economic Report (2009)" to make appropriate comments and recommendations. This Annual Economic Report (AER) of the EU fishing fleet is the most recent comprehensive compilation of statistics on the economic performance of EU member states (MS) fishing fleets.

The economic data used in this publication is collected within the framework of the Data Collection Regulation (DCR); cf. Council Regulation (EC) No 1543/2000 of 29 June 2000. The data call requested economic data for the years 2002 to 2007, but the report also includes comments about the trends and outlook for 2008 and first part of 2009 for the fisheries in each of the Member States.

The report has been produced by fisheries economists from the JRC and a working group of economic experts (SGECA 09-01) under the Scientific, Technical and Economic Committee for Fisheries (STECF). Prior to the meeting the JRC compiled the data tables and briefly described the data for the national, regional and price analyses.

##### **Terms of reference**

Following winter 2008 STECF plenary recommendations on the Annual Economic Report (AER) and the latest DCR call for economic data, SGECA 09-01 was requested to analyse and comment on the economic performance of MS national fishing fleets, regional EU fishing fleets and EU fish prices between 2002 and 2007. In addition the working group was asked to comment on EIAA model outputs for selected fleet segments in 2008 and 2009.

##### **STECF comments and recommendations**

STECF reviewed the contents of the 2009 AER, with respect to the tables, the projections, outlooks and trends. STECF observes that the format and the structure of the report are in line with those as proposed by STECF in previous plenary meetings.

The STECF recognizes that the report is well organized and includes valuable information and discussions. National chapters are well structured and provide national fleet overview, production and prices for national fleet and by fleet segment, description of trends and drivers for change (e.g. relevant information on fisheries management measures that affect economic performance) and qualitative projections on economic performance for 2008 and 2009. Fleets of “special interest” for each country are also subject to separate and detailed analyses. The chapter on fish prices and price trends gives a comprehensive analysis and includes useful information.

STECF also observes that coverage of data is increased compared to last year report. Most MS delivered the required data but there are still problems regarding the timing of submission and the completeness of data. For several countries data are missing with respect to years, variables (in

particular several performance indicators were not calculated due to lack of cost data) and coverage of fleets. As a result the European summary overview is incomplete and hence general trends cannot be evaluated or are difficult to interpret.

STECF recognizes that the late submission of data from MS is a serious problem that affected negatively the timely and correct preparation of the AER. The current time line aims to deliver a draft report in time for the April STECF plenary. STECF observes that the schedule is tight and that several MS were not able to deliver the data according to the deadline (15th of December). STECF recalls the observations made during the November 2008 plenary when it was already considered that such an early call could lead to a situation in which MS do not deliver complete sets of data.

STECF stresses again that the quality and completeness of the report should prevail over the timing. Therefore, STECF requests JRC to verify with DGMARE the possibility to postpone the preparation of the AER if an extension of the deadline can enable MS to deliver more timely and correct datasets. In this case, SGECA meeting will be postponed and the report could then be assessed by STECF during the July plenary or before by correspondence.

In addition, STECF highlights the need for an improvement in the analytical tools used for carrying out the assessment of the economic performance of the fleets, clarification on the methodology required to conduct the regional analysis and the identification of special issues to be investigated in future years' AER. Therefore, STECF recommends that a preparatory work aimed at addressing the above mentioned issues should be carried out before the SGECA meeting. The best way to approach this should be discussed by DG Mare and the STECF Board.

STECF also notes that, in part due to incomplete data sets and late submission of data, JRC was not able to produce a reliable overview of the economic performance of regional fleet segments. Analyses were therefore performed at national level and not at regional fleet segment level. SGECA 09-01 questioned the validity of the outputs considering that each indicator was composed using incomplete data sets. Therefore, JRC and DGMARE decided to exclude the regional analyses chapter from this year's AER and decided to produce a separate document that will be presented to STECF for comments during the July plenary.

In addition, STECF recognizes the need to make regional analyses but stresses that such analyses must be based on a clear methodology and assumptions. Therefore, STECF requests that JRC explores an appropriate methodology that accurately produces the desired outputs for regional analyses. This methodology should be developed taking into account previous STECF recommendations (STECF 08-03).

STECF recognizes the effort in the application of the EIAA model. However, the results of projections for 2008 and 2009 presented in the report are not particularly informative or reliable because the model was not configured to take account of recent important developments, such as decommissioning, sudden price changes and policy changes like effort reduction schemes. In the event that the EIAA model is used for future AERs, STECF recommends that preparatory work be undertaken before the SGECA meeting, in order to ensure that the model is appropriately configured. The best way to approach this should be discussed by DG Mare and the STECF Board. At the same time, STECF notes that in future the report should present the criteria used to select the fleet segments for which the EIAA model will be applied.

STECF also notes that, despite previous recommendations, no information is given on the quality of data and its reliability. STECF recommends including quality indicators in next years' AER. Some of them (coverage, sample size) are already available from the national technical reports. Other indicators will be proposed by the next working group on data quality (SGECA –09-02) that will

suggest indicators of accuracy and precision that need to be provided in the national technical report to evaluate the quality of estimates for each economic variable.

#### **4.2. Workshop on Mediterranean Stock Assessment Standardization SG-MED workshop 09-01 (formerly labelled as SG-ECA/RST/MED 09-01)**

STECF is requested to review the report of the **SGMED workshop 09-01** of March 2 – 6, 2009 (Murcia) meeting, evaluate the findings and make any appropriate comments and recommendations.

##### **Terms of Reference:**

The STECF (SG-ECA/RST/MED 09-01) is requested to

- to derive and agree on appropriate values for M and growth parameters for stocks of demersal and small pelagic species.
- to explore alternative stock units and to investigate the possibility of combining stock-specific data from adjacent GSAs based on ecological, biological and fishery features.
- to standardize the MEDITS and GRUND surveys time series to account for unbalanced sampling design and appropriate data distribution. Specific work has been initiated to allow for estimation of standardized MEDITS and GRUND surveys.
- to define a DCF call for biological and economic data to support the work of SGMED in 2009.
- to define Terms of Reference for the two subsequent SGMED assessment working groups in 2009 dealing with Mediterranean stocks. The first meeting, SG-MED 09-02 (8-12 June 2009), should focus on the estimation of historic and recent stock parameters. The second meeting, SGMED 09-03 (30 November-4 December 2009) should provide predictions of catch and biomass under different management scenarios in short and medium term and should also aim to and derive reference points for economic sustainability and provide economic advice of the various management scenarios simulated.

##### **STECF comments and conclusions**

The Workshop addressed all items, with the exception of (c). On item (c), SG-MED concluded that the required data standardization to account for unbalanced sampling designs and appropriate data distributions will be a very time consuming exercise and proposed to defer this task to a later meeting. STECF commented that due to the specific expertise needed it is unlikely that the standardization of the MEDITS and GRUND datasets could be completed within the scope of an SG-MED meeting. The task requires examination of the various survey designs and results to assess the most appropriate methods of data analysis and selection of efficient statistical estimators for key outputs. STECF agreed that this task could be completed more effectively through the establishment of an *ad hoc* contract, ideally to be concluded as soon as possible in 2009. The outputs should be considered by SG-MED-09-02 and SG-MED-09-03 as they become available.

With respect to item (a) of the ToR, the Workshop reviewed in detail the most frequently applied methods used to estimate the natural mortality of exploited marine species and initiated discussion about the growth parameters for demersal and small pelagic stocks in the Mediterranean Sea. After considerable discussion, the Workshop agreed on the need to use vectors of M that have decreasing

values with age/size. Two preferred methods for estimating  $M$  were proposed and this conclusion was endorsed by STECF. Providing there is a reasonable degree of confidence in growth parameter estimates STECF recommends the use of either one of the two following methods to calculate  $M$ :

1. Gislason *et al.* (Gislason *et al.*, 2008a; Gislason *et al.*, 2008b):

$$\ln M = a + b \ln L + c \ln L_{\infty} + d \ln K$$

or

2. ProdBiom (Abella *et al.*, 1997) based on considerations about production and losses of biomass due to natural mortality which uses the Caddy (1991) equation:

$$M_{(t)} = M_a + \left( \frac{\beta}{t} \right)$$

where  $M_a$  is the asymptotic  $M$  and  $\beta$  is the curvature parameter.

STECF did not express a preference for one or other of these methods. STECF agreed that when uncertainty in the estimates of growth parameters is high, scientists should consider using alternative methods that are less sensitive to these parameters, providing these methods are feasible, reliable and well documented.

STECF noted the conclusion of SG-MED that discrepancies in estimates of growth parameters for several demersal (hake and red mullet) and small pelagic (anchovy and sardine) species and stocks in the Mediterranean are likely to be attributable more to differences in methods used to estimate mean length at age and interpretation of ring patterns on otoliths than to genuine differences in growth patterns. STECF agreed that the best way to resolve such differences would be to hold regional meetings aimed at harmonizing analytical methods and standardizing techniques for reading otoliths to improve accuracy and reduce uncertainty. STECF notes that a proposal for conducting a workshop on methodological aspects of data collection, age reading or maturity staging ideally would be discussed and recommended by a stock assessment working group or other relevant expert group, e.g. STECF and its sub-groups, or a Regional Co-ordination Meeting (RCM) within the EU Data Collection Framework (DCF). The need for the workshop should be addressed to ICES PGCCDBS (Planning Group on Commercial Catches, Discards and Biological Sampling) or PGMed (Mediterranean Planning Group for Methodological Development), taking place in parallel in early March each year. At these PGs, workshop proposals are (usually) endorsed and forwarded to ICES ACOM (Advisory Committee) for adoption and inclusion in next year's work programme. If accepted as eligible for funding under the DCF by the EU Commission, Member States can include the travel costs for these workshops in their National Programmes. STECF asks SGMED 09-03 to define the specific Terms of Reference for a methodological workshop to be held in 2011. STECF requests SGMED-09-03 also to explore the possibility to hold the workshop under the umbrella of the scientific advisory committee SAC of GFCM.

With respect to item (b) of the ToR, SG-MED agreed a series of changes to the current stock boundaries to be used for the next stock assessments of European hake (*Merluccius merluccius*), red mullet (*Mullus barbatus*) and deep water rose shrimp (*Parapenaeus longirostris*). Several of the existing divisions were based on geopolitical boundaries and had no basis in biology, ecology or fishery patterns. Recommendations for changes were based on a range of factors, including observed similarities in trends of recruitment indices estimated from MEDITS surveys, levels of similarity in biological parameters of relevant species, environmental trends and expert experience. The proposed changes should enable SG-MED to accomplish its work in a more consistent way within respect to basic stock parameters and thereby improve its support to the GFCM.

STECF recommends the following:

1. European Hake (*Merluccius merluccius*)

- Merge the following GSAs<sup>1</sup>:
  - GSAs 05+06;
  - GSAs 12+13+14+15+16;
  - GSAs 17+18;

2. Red mullet (*Mullus barbatus*)

Maintain the current GSAs boundaries or investigate smaller areas. In this context, a splitting of GSA09 into two sub-units should be investigated further by SGMED: GSA09a (north) and GSA09b (south).

3. Deep- water rose shrimp (*Parapenaeus longirostris*)

- Merge the following GSAs:
  - GSAs 01+06+07
  - GSAs 12+13+14+15+16.

SG-MED also considered the possibility of merging GSA 05 (Balearic Islands) with GSAs 01, 06 and 07. The merging of GSAs 01, 06 and 07 was based on similar trends in MEDITS survey data. The catches in GSA 05 are relatively low (approximately 200 tonnes), however, there were insufficient survey data from this area to support the option of merging it with the other three GSAs. STECF agreed that while it may be a reasonable option to include GSA 05 in the merged area, it would be best to maintain the separation until more information becomes available.

In addition to the conclusions of SG-MED, STECF discussed the possibility of merging GSAs 06 and 07 for small pelagic species, based on knowledge of larval transport between the Gulf of Lions and the Catalan Sea. SG-MED had not examined the survey data for small pelagics in this context. STECF agreed that the existing proposals from SG MED were only the start of the process, and further options for merging GSAs for different species could be considered in the future.

STECF noted the recommendation of SG-MED that a specific SGECA meeting be held before the SG-MED-09-03 to develop an agreed methodology for SG-MED regarding the use of bioeconomic models and development of economic advice for Mediterranean fisheries. STECF noted that such a methodology would have application for other regions, not just the Mediterranean. STECF concluded that due to time constraints it would not be possible to hold a SGECA meeting prior to SG-MED-09-03 (scheduled for 30/11/09 to 4/12/09). An alternative option to make progress this year would be to establish for identified geographical units *ad hoc* contracts to develop advice on short-term and long-term economic consequences of selected harvesting strategies. The economic and social effects of the harvesting strategies proposed should be assessed using a bio-economic approach. To this end, the methodology adopted should take into account the following:

- the results of the Study FISH/2007/07, “Survey of existing bio-economic models”;
- biological outputs in terms of landings and fishing mortality by species, estimated for each of the selected harvesting strategies and for each geographical sub-area or division; and
- DCR data as requested from MS by the JRC.

To complement these analyses and make use of the results specifically for the Mediterranean region, STECF also proposed to include in the ToR of the SG-MED-09-02 and -03 meetings the

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<sup>1</sup> GSAs 22 and 23 were merged for European hake and deep-sea rose shrimp during previous SG-MED meetings in 2008.

development of specific case studies for Mediterranean fisheries (e.g. anchovy, sardine and *Nephrops*). This would require attendance by biologists and economists with suitable expertise in the development of bio-economic models. This should be part of the broader goal of a more integrated approach, bringing together ecology, biology and economics in the development of management advice, and might require the identification of data requirements over and above those already identified through the DCF data call. (see agreed ToR for SG-MED-09-02 and -03 below).

STECF noted the DCF call for biological and economic data prepared by SG-MED and the urgent need to issue this call to support the work of SG-MED in 2009 (ToR d).

STECF noted the mistakes identified by SG-MED in the names of the species, either common or scientific, listed in the Appendix VII of the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea. Considering the fact that this list is the base for the data collection on the various stocks of Community interest, that the various versions of the list of stocks were previously checked by STECF in several meetings, and that it is necessary to eliminate any possible sources of confusion, STECF recommends the following list of corrections:

- a) to amend the common name of *Pagellus erythrinus*, and substitute “Pandora” with the correct name adopted by FAO and Fish-base, “Common Pandora”, because the actual one might generate confusion if not supported by the scientific name.
- b) to amend both the common name and substitute “Sole” with the correct name adopted by FAO and Fish-base, “Common sole”, and the related scientific name, substituting “*Solea vulgaris*”, which is now a synonym, with the valid name “*Solea solea*”.
- c) to amend the common name and substitute “Picarels” with “Picarel”, because the actual one might generate confusion if not supported by the related scientific name; Picarels might be intended as all the species belonging to the genus *Spicara*.
- d) to amend the scientific name for Tub gurnard, and substitute “*Trigla lucerna*” with the correct name adopted by FAO and Fish-base, “*Chelidonichthys lucerna*”.
- e) to amend the common name and substitute “Dolphinfish” with “Common dolphinfish”, because the actual one might generate confusion if not supported by the related scientific name of *Coryphaena hippurus*.
- f) to amend the common name for *Parapenaeus longirostris* and substitute “White shrimp” with “Deep-water rose shrimp”, which is the common name adopted by FAO, because the actual one might generate confusion if not supported by the related scientific name.
- g) to amend the scientific name of the Norway lobster and substitute “*Langoustine norvegicus*” with the correct name adopted by FAO and all scientific references, “*Nephrops norvegicus*”.
- h) to amend the scientific name of the Giant red shrimp and substitute “*Aristeomorpha foliacea*” with the correct name adopted by FAO “*Aristaeomorpha foliacea*”.

Regarding the ToR for SG-MED-09-02 and SG-MED-09-03 (ToR e), STECF noted the proposals of SG-MED and agreed the following ToR:



**The Terms of Reference for the STECF/SGMED-09-02 (8-12/6/2009) were defined as follows:**

a) Update and assess the status and trends of the stocks by all relevant GSAs, or, if the case, by bigger areas merging adjacent GSAs, in the Mediterranean Sea, taking into account the recommendations of the SGMED workshop in March and the following STECF comments. Advise on the status of the exploited stocks of the species listed below, with respect to high yields harvesting strategies and to maintain their reproductive capacity and ensure a low risk.

- Sardine (*Sardina pilchardus*)
- Anchovy (*Engraulis encrasicolus*)
- European hake (*Merluccius merluccius*)
- Red mullet (*Mullus barbatus*)
- Deep-water rose shrimp (*Parapenaeus longirostris*)

b) Assess the status and trends of the stocks by all relevant GSAs, or, if the case, by bigger areas merging adjacent GSAs, in the Mediterranean Sea. Advise on the status of the following exploited stocks of the species listed below, with respect to high yields harvesting strategies and to maintain their reproductive capacity and ensure a low risk.

- Red shrimp (*Aristeus antennatus*)
- Giant red shrimp (*Aristaeomorpha foliacea*)
- Norway lobster (*Nephrops norvegicus*)

c) Review and propose biological reference points related to high yields and low risk of fishery collapse in long term of each of the stocks assessed.

d) Update and assess historic and recent trends (capacity, technological creep, nominal fishing effort) in the major fisheries by GSAs or, if the case, by bigger areas merging adjacent GSAs exploiting the stocks assessed. The trends should be interpreted in light of management regulations applicable to them.

e) Review the applicability and fully document all applied methodologies for the assessments and determination of the proposed biological reference points.

f) Fully document the data used and their origin for the assessments and determination of the proposed biological reference points.

g) To review proposed methodologies to standardize the MEDITS and GRUND surveys time series to account for unbalanced sampling designs and appropriate data distributions. Specific work has been initiated in this regard.

h) Investigate the requirements for reorganising the MEDITS database that result from the recommendations of STECF for combining some GSAs for some species.

i) Based on the “Survey of existing bio-economic models” under Studies and Pilot Projects for carrying out the Common Fisheries Policy No FISH/2007/07 and data made available by MS, develop specific case studies for Mediterranean fisheries (e.g. anchovy, sardine and *Nephrops*), and advise on possible short-term and long-term economic consequences of the selected harvesting strategies. Evaluate the possibility to use existing bioeconomic models for comparing the proposed harvesting strategies with long-term economic profitability (MEY) of the main fisheries exploiting the assessed stocks (to be continued in SGMED-09-03).

**The Terms of Reference for the STECF/SGMED-09-03 (30/11-4/12/2009) were defined as follows:**

a) Provide short term and medium term forecasts of stock biomass and yield for the stocks assessed during the SGMED 09-02 meeting in June for the species listed below, under different management options, by fleets where possible:

- Sardine (*Sardina pilchardus*)
- Anchovy (*Engraulis encrasicolus*)
- European hake (*Merluccius merluccius*)
- Red mullet (*Mullus barbatus*)
- Deep water rose shrimp (*Parapenaeus longirostris*)
- Red shrimp (*Aristeus antennatus*)
- Giant red shrimp (*Aristaeomorpha foliacea*)
- Norway lobster (*Nephrops norvegicus*)

b) Advise on stock-size dependent harvesting strategies and slope-based approaches decision control rules to avoid risk situations for the stocks while ensuring high fisheries productivity, taking into account the recommendations of the SGMED 09-02 meeting in June and the following STECF comments. Such advice should consider mixed fisheries effects and ecosystem approach to fisheries management.

c) Identify any needs for management measures required to safeguard the stocks assessed.

d) Review the applicability and fully document all applied methodologies for the projections and determination of management approaches.

e) Fully document the data used and their origin for the projections and determination of the proposed biological reference points.

f) Provide and review marine population and community indicators.

g) Based on the “Survey of existing bio-economic models” under Studies and Pilot Projects for carrying out the Common Fisheries Policy No FISH/2007/07 and data made available by MS, review existing bio-economic models for producing advice on possible short-term and long-term economic consequences of the selected harvesting strategies. Evaluate the possibility to use existing bioeconomic models for comparing the proposed harvesting strategies with long-term economic profitability (MEY) of the main fisheries exploiting the assessed stocks.

h) Define the specific ToR for a methodological workshop to be held in 2011 with the aim of improving the precision and accuracy of individual ageing of wild caught species as a prerequisite to age based stock assessments. Such ToR should be forwarded to PGMed or ICES PGCCDBS in March 2010 for review and endorsement. In particular, SGMED 09-03 should also consider the alternative approach to hold the workshop under the umbrella of SAC of GFCM.

i) Suggest adjustments and provide guidance on data needs and quality, on methods and on interpretations, so that SGMED work can further progress in 2010 towards the goals of the overall mandate given to STECF, focusing its attention, in particular, on the various stocks of the following species, all included in Appendix VII of the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea: European hake (*Merluccius merluccius*), red mullet (*Mullus barbatus*),

blue whiting (*Micromesistius poutassou*), common Pandora<sup>2</sup> (*Pagellus erythrinus*), Blackspot seabream<sup>3</sup> (*Pagellus bogaraveo*), Axillary seabream<sup>4</sup> (*Pagellus acarne*), Common sole (*Solea solea*)<sup>5</sup>, Horse mackerel (*Trachurus trachurus*), Greater forkbeard (*Phycis blennoides*)<sup>11</sup>, Poor cod (*Trisopterus minutus*)<sup>3</sup>, Sargo breams (*Diplodus* spp.)<sup>11</sup>, Picarel<sup>6</sup> (*Spicara smaris*), Bogue (*Boops boops*), Sea bass (*Dicentrarchus labrax*), Anglerfish (*Lophius piscatorius*), Black-bellied angler (*Lophius budegassa*), Gilthead seabream (*Sparus aurata*), tub gurnard (*Trigla lucerna*)<sup>7</sup>, Mackerel (*Scomber* spp.), Common dolphinfish<sup>8</sup> (*Coryphaena hippurus*), Sardine (*Sardina pilchardus*), Anchovy (*Engraulis encrasicolus*), Sprat (*Sprattus sprattus*)<sup>11</sup>, Deep-water rose shrimp<sup>9</sup> (*Parapenaeus longirostris*), Norway lobster (*Nephrops norvegicus*)<sup>10</sup>, Red shrimp (*Aristeus antennatus*), Giant red shrimp (*Aristaeomorpha foliacea*)<sup>11</sup>, Atlantic bonito (*Sarda sarda*), Skipjack tuna (*Katsuwonus pelamis*)<sup>12</sup>, bullet tuna (*Auxis rochei*).

#### 4.3. SGMED-09-01 Black Sea

STECF is requested to review the report of the **SGMED-09-01 Working Group** of March 23 – 27, 2009 (Ispra) meeting, evaluate the findings and make any appropriate comments and recommendations.

#### Terms of Reference:

The STECF (SG-MED 09-01) is requested to

- to review and comment on the data quality compiled by SG Black Sea during its meeting in June 2008 (see Annexes to the report of SGMED-08-03).
- to compile complete sets of national annual data on landings, discards, landings at age, discards at age, mean weight at age in the landings, mean weight at age in the discards, maturity ogives at age and natural mortality at age for sprat and turbot by area for

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- 2 STECF/SG ECA/RST/MED 09-01 recommends amending the common name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea and substitute “Pandora” with the correct name adopted by FAO and Fish-base, “Common Pandora”, because the actual one might generate confusion if not supported by the scientific name.
  - 3 STECF/SG ECA/RST/MED 09-01 notes that the ToRs for the previous SGMED meeting in 2008 reported this species as “Red Sea Bream”; no one known species has this common name. It was also noted that this species is not included in the Appendix VII of the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea, but data could be possibly available from surveys or from those areas where a recovery plan is in place.
  - 4 STECF/SG ECA/RST/MED 09-01 notes that this species is not included in the Appendix VII of the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea, but data could be possibly available from surveys or from other data sources.
  - 5 STECF/SG ECA/RST/MED 09-01 recommends to amend both the common name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea and substitute “Sole” with the correct name adopted by FAO and Fish-base, “Common sole”, and the scientific name, substituting “*Solea vulgaris*” which is now a synonym, with the valid name “*Solea solea*”.
  - 6 STECF/SG ECA/RST/MED 09-01 recommends to amend the common name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea and substitute “Picarels” with “Picarel”, because the actual one might generate confusion if not supported by the related scientific name. Picarels might be intended as all the species belonging to the genus *Spicara*.
  - 7 STECF/SG ECA/RST/MED 09-01 recommends to amend the scientific name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea and substitute “*Trigla lucerna*” with the correct name adopted by FAO and Fish-base, “*Chelidonichthys lucerna*” for Tub gurnard.
  - 8 STECF/SG ECA/RST/MED 09-01 recommends amending the common name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea and substitute “Dolphinfish” with “Common dolphinfish”, because the actual one might generate confusion if not supported by the related scientific name.
  - 9 STECF/SG ECA/RST/MED 09-01 recommends to amend the common name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea (but also for other areas) and substitute “White shrimp” with “Deep-water rose shrimp”, which is the common name adopted by FAO, because the actual one might generate confusion if not supported by the related scientific name.
  - 10 STECF/SG ECA/RST/MED 09-01 recommends to amend the scientific name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea and substitute “*Langoustine norvegicus*” with the correct name adopted by FAO, “*Nephrops norvegicus*” for the Norway lobster.
  - 11 STECF/SG ECA/RST/MED 09-01 recommends to amend the scientific name reported in the Appendix VII by the Commission Decision (2008/949/EC) for the Mediterranean and the Black Sea and substitute “*Aristaeomorpha foliacea*” with the correct name adopted by FAO “*Aristaeomorpha foliacea*” for the Giant red shrimp.
  - 12 STECF/SG ECA/RST/MED 09-01 notes that the ToRs for the previous SGMED meetings in 2008 reported this species as “Stripe-bellied bonito”; no one known species has this common name in English.

the longest time series available up to and including 2007. The data should be compiled based on official databases and best expert knowledge.

- to compile all fishery independent data (pelagic, demersal, hydro-acoustic surveys) for sprat and turbot, their juveniles, eggs or early life stages. In order to allow the use of such data to potentially calibrate virtual population analyses, the abundance, biomass and spawning stock biomass indices at age should be compiled for the longest time series available up to and including 2007.
- to compile complete sets of annual fishing effort data (number of vessels, kW\*days, fished hours) by nation, for fleets and gears (mesh size where applicable) that catch sprat and turbot, and area for the longest time series available up to and including 2007.
- to assess trends in historic stock parameters for sprat and turbot for the longest time series available up to and including 2007 (fishing mortality at age) and up to and including 2008 (spawning stock biomass, stock biomass, recruits at age). Different assessment models should be applied as appropriate, including analyses of retrospective effects.
- to propose and evaluate candidate limit and target reference points consistent with maximum sustainable yield for sprat and turbot in the Black Sea.
- to predict spawning stock biomass, stock biomass, recruits and catches at age and in weight for sprat and turbot in 2009 and the beginning of 2010 under different management scenarios including the status quo fishing (mean F at age 2005-2007, rescaled to 2007) and with a TAC constraint for 2009. Specifically comment on the consequences of the agreed TACs in 2009 for the stock parameters listed above with regard to reference points consistent with maximum sustainable yield.
- to prepare maps showing geographic density patterns in annual abundance indices derived from surveys aggregated for age groups selected by the fisheries and compare them with maps of geographical distribution patterns in annual landings and discards of sprat and turbot by fishing gear.
- to report all results to the spring plenary of STECF in 2009.

### **STECF comments**

The Chair of the Expert Group, Georgi Daskalov, presented the Group's main findings and proposals to the plenary.

STECF compliments the Working Group on its work. The WG addressed all its Terms of reference with limited participation.

### **Sprat in the Black Sea**

STECF notes that SG-MED 09-01 carried out an assessment of the sprat stock in the Black Sea applying two alternative models, an Integrated Catch-at-age model (ICA; Patterson and Melvin, 1996) and an Extended survivor analysis model (XSA; Darby and Flatman, 1994).

STECF notes that the XSA diagnostics from both commercial tuning indices (Bulgarian and Ukraine), used in the assessment are rather poor (less than 50% of the final survivor estimates for all

ages is derived from the tuning fleets). However no other reliable information (e.g. survey estimates) is available for this stock.

STECF also notes that the input exploitation pattern for ages 4 and 5 used in the ICA are adjusted to a very low level without a clear justification. Since age groups older than 3 are not well represented in the catches or the population, STECF considers that an age range of 1-3 should be used to derive reference fishing mortality estimates.

It is apparent that the large discrepancy in the terminal estimates of  $F_{bar}$  (1-4) between ICA and XSA are largely due to the input selection pattern of the ICA. The reduced exploitation pattern on age 4 and age 5 in ICA results in a higher SSB from the ICA model compared to the XSA model and this gives rise to fishing mortality estimates which are substantially lower from the ICA model compared to the XSA model. STECF investigated which of the two terminal estimates of fishing mortality is likely to be the most plausible by comparing the total mortality derived from a catch curve analysis of the Ukrainian and Bulgarian commercial CPUE indices. The estimated fishing mortalities were in the region of  $F=0.8$  -  $F=1.0$ , which are in line with the estimate from XSA. STECF concludes that the lower estimate of  $F$  from ICA is likely to be an underestimate resulting from the choice of input exploitation pattern.

Both models give similar trends in Fishing mortality, SSB and recruitment. Short term forecasts with inputs from both models also indicate that with status quo fishing in 2009 (around 43,000t of international landings), SSB will remain stable at a low level.

STECF agrees with the findings of the SG-MED 09-01 concerning possible reference points. The yield/recruit graphs increase with increasing mortality with no evidence of a plateau. It seems very likely therefore that the use of  $F_{max}$  or  $F_{0.1}$  are not suitable as candidate reference points. A general production model assuming a Ricker stock-recruit relationship suggests  $F_{msy}$  values between 0.6 and 0.7, depending on the ICA or the XSA inputs.

If  $F_{msy}$  is taken as a reference point, the ICA results indicate that the stock is under exploited whereas the XSA results indicate overexploitation. Given that the XSA estimate of  $F$  in 2007 appears more likely to be a reflection of the true fishing mortality, to achieve  $F_{msy}$  in 2009 fishing mortality should be reduced by about 20% compared to 2007, implying a total international catch of around 37,000 t in 2009.

In the absence of an allocation key for the international sprat catches, STECF is unable to advice on a specific EU TAC for sprat in the Black Sea.

STECF notes that the 2008 EU TAC (15,000 t) was not taken. Total EU landings in 2008 amounted to 4,538 t.

### **Turbot in the Black Sea**

STECF notes that SGMED 09-01 has reviewed historic and recent landings statistics of turbot in the Black Sea and that uncertainties about the accuracy of such statistics were raised. Given these uncertainties in the data, STECF endorses the valuation of SGMED regarding the assessment of turbot (XSA) in the Black Sea being representative of relative trends in the stock parameters only, while no absolute values of historic or recent stock size or exploitation rates could be provided. Furthermore, the relative character of the stock assessment prevented SGMED-09-01 from undertaking reliable short term predictions of stock biomass and catches as well as estimating reliable reference points for fisheries management.

STECF endorses the relative assessment of the turbot stock in the Black Sea, based on the best data available to SGMED-09-01. The turbot SSB during recent years is indicated to be at low level compared to historical biomass. In 2003, the SSB is estimated to be at an all time low in the time series (1970 – 2007). Relative abundance estimates are confirmed by CPUE data. Catches have also dropped since 2002. A gradual recovery in SSB and catches is observed since 2004. Recruitment was at the minimum in 2000-2001 and started to increase since 2002. The increase in recruitment since 2002 may have had a positive influence on SSB but given that many small and immature turbot are caught by the fisheries, such a positive influence may not materialise in an increase in SSB over the next few years. Fishing mortality has peaked in 2000-2001. The catches decreased since 2002 but fishing mortality is indicated to be high thereafter.

STECF endorses the recommendation of SGMED 09-01 to keep the exploitation of turbot in the Black Sea at the lowest possible level in order to allow the stock to recover.

STECF notes that the EU-TAC for Turbot given to Bulgaria and Romania in 2009 summed to 100 t (Council Reg. 1139/2008). This TAC for 2009 was kept unchanged from the TAC for 2008. Taking into account the historic international landing levels frequently exceeding 1,000 t, and the recent international landings ranging at the same level, the unilateral low catch regulation (100 t) appears not to constitute any major risk to the stock if fully enforced. Given that the assessment of turbot is only indicative of trends in stock parameters and exploitation and in absence of fisheries management reference points, STECF is unable to evaluate and comment on the exploitation state of the stock and the consequence of the recent international landings level officially reported. However, STECF emphasises that unilateral management measures do not necessarily lead to targets if not agreed and coordinated internationally within RFMO.

STECF also notes that the SGMED 09-01 was unable to map geographic density patterns of annual abundance indices derived from surveys aggregated for age groups selected by the fisheries and compare them with maps of geographical distribution patterns in annual landings and discards of turbot by fishing gear. STECF acknowledges the detailed planning of SGMED 09-01 preparing the requested geographical maps by correspondence before the second Black Sea expert meeting to be held in June 2009 in parallel to the SGECA/RST meeting in Brest on stock review.

STECF recognize that the Black Sea Working Group needs to build additional capacity in quantitative stock assessment and welcomes any initiative in planning for a stock assessment training course.

#### **References:**

Patterson, K. R. and Melvin, G. D. 1996. Integrated Catch at age analysis Version 1.2 Scottish Fisheries Research Report 38.

Darby, C.D and Flatman, S. 1994. Virtual Population Analysis: Version 3.1 user guide. MAFF Directorate of Fisheries Research IT report 1, 85 p.

#### **4.4. SGRN/ECA 09-01: Evaluation of data collection programmes for the 2009-2010 period**

STECF is requested to review the report of the **SGRN/ECA-09-01 Working Group** of February 9 - 13, 2009 (Bilbao) meeting, evaluate the findings and make any appropriate comments and recommendations.

## **Background**

The Council regulation EC N°199/2008 established a new Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the CFP. Under this council regulation, Member states must produce national programs for data collection for the 2009-2010 period, in conformity with the modules and the methods defined in the Commission decision 2008/949/EC.

### **Terms of reference:**

1. Objectives of SGRN to contribute to the implementation of the DCF.
2. New challenges and opportunities offered by the new DCF.
3. Regional dimension of the DCF: Lessons learnt and Issues identified from the first RCMs.
4. Evaluation of the National Programmes for 2009-10 in relation to Article 6 of Council Regulation (EC) 199/2008. This evaluation will be based on the overarching criteria of conformity and scientific relevance. The NP will be evaluated at a regional scale on a chapter by chapter basis.
5. The role of data end users (namely ICES and GFCM) in the new DCF. Particular attention will be paid to the provision of feedback on data availability, quality, gaps and the data used in the scientific advisory process.
6. AOB.

### **STECF Comments and recommendations**

The SGRN/SGECA 09-01 report mainly addresses the ToR 4 on the “Evaluation on the NPs for 2009-2010”. Compared to the previous DCR, the new DCF includes additional parameters to be collected under new modules (aquaculture, ecosystem effects of fishing) or existing modules (transversal variables under the module of evaluation of the fishing sector). STECF notes the challenge encountered by SGRN/SGECA 09-01 in the review of 22 NP in 4 days, without prior screening and without guidelines and procedures. However, STECF notes that there is no clear evidence that the expertise of the experts present at the meeting covers all these modules.

SGRN/SGECA 09-01 conducts the evaluation of MS NPs within regional subgroups on the basis of a standardized evaluation procedure, developed during the meeting. These regional evaluations took the largest amount of time at the meeting. STECF notes that some MS NP proposals were evaluated within different regional subgroups as some MSs are involved in several fishing regions. However, it remains unclear how these different subgroup analyses are merged in the report. Moreover, STECF is concerned that no analysis of the subgroup reports was carried out in the SGRN WG plenary and notes that in some cases, this could have lead to inconsistencies and differences in the evaluation by the regional subgroups. STECF notes that the SGRN/SGECA 09-01 report does not provide suggestions for remedying the obvious lack of time for detailed, consistent and plenum-agreed evaluation of NP proposals. Expanding the meeting time by 1-2 days could be an option, but a separate ‘pre-evaluation meeting’ should be preferable. STECF appreciates the effort of the subgroup to report on general comments in addition to comments by national programme.

Considering that the DCF is in a period of major transition from the old DCR to the new DCF and the tremendous amount of work that has been done by Member States in compiling their NP (2009-2010) under the new DCF, STECF supports the flexible approach of SGRN in the evaluation.

STECF recognizes that the meeting duration was too short to address all the ToRs in detail. In particular:

- it seems that the report does not address the ToR 1
- regarding the lessons learnt and issues identified from the first RCMs (ToR 3), the group raised the issue of the availability of the RCM reports very late in 2008, and not in time to help Member States prepare their National Programmes (NPs). This implies different understanding of the Commission decision 2008/949/EC by different MS and these misunderstandings made the evaluation process more complex and time consuming.
- regarding the role of the data end users in the new DCF (ToR 5), the SGRN/SGECA 09-01 group encourages the GFCM to develop feed-back systems similar to ICES.

STECF supports the SGRN initiative to promote data-end-user feedback. These data-end-users are much wider than ICES and GFCM and also include *inter alia* ICCAT, IOTC, SEFOS, Discard meetings and various STECF working groups.

In order to encourage and strengthen data end user feedback, STECF suggests:

- to establish a data base inventory of all data collected, to cross check with data used in assessments
- to establish a series of case studies to address the availability of data collected under the DCF as well as its relevance to end-users. An in depth analysis of the flow of data from collection under the National Programmes to their use in assessments may be useful to identify bottlenecks and reasons for data not being delivered. Such an analysis would form a good basis for identification of actions to be taken to improve the availability of data to end-users.

STECF noted that data collected under the DCF are used not only for advisory work as specified in the DCF but also for management. An example is the rule on annual adjustment in the maximum allowable fishing effort laid down in the cod recover plan (COUNCIL REGULATION (EC) No 1342/2008 of 18 December 2008 establishing a long-term plan for cod stocks). According to the rule the adjustment in effort shall be based on the catches of cod collected under the DCF. This end-use of data is not addressed in the DCF and has not been taken into account in the work of SGRN. The STECF notes that it is important that the new end-use of DCF data is taken into account in the STECF-SGRN review of NPs.

Finally, STECF endorses the recommendations of SGRN/SGECA 09-01:

- to review the guidelines for the submission of NP proposals 2011-2013 during the SGRN/SGECA 09-02 June 2009 meeting. The general comments within the SGRN/SGECA 09-01 report and the reports of the 2008 RCMs (Anon. 2008 a,b,c,d.) appear as a useful preparatory work for this task.
- to develop working procedures for the review of NP proposals during the SGRN/SGECA 09-02 June 2009 meeting. In particular, a clear, standardized and applicable methodology for the evaluation of the NP proposals by modules and by regional subgroups should be developed and the expertise covering all the modules of the new DCF should be ensured. STECF supports the idea of an initial screening of the NP by a group of experts familiar with the DCF, who could work by correspondence. This report would then be used by SGRN as a starting point for the National Programme reviews.
- to review the list of research surveys that are funded under the DCF. This review should be carried out in January 2010, before Member States submit their 2011 to 2013 National Programmes in March 2010.

#### **References:**

Anon. 2008a. Report of the Regional Co-ordination Meeting for the North Sea and Eastern Arctic (RCM NS&EA) 2008, 83 pp.



Anon. 2008b. Report of the Regional Co-ordination Meeting for the Baltic Sea (RCM Baltic) 2008, 78 pp.

Anon. 2008c. Report of the 1st Regional Co-ordination Meeting for the North Atlantic (RCM NA) 2008, 144 pp.

Anon. 2008d. Report of the 1st Regional Co-ordination Meeting for the Mediterranean and Black Sea (RCM Med & BS) 2008, 79 pp.

#### **4.5. SGMOS-09-01 Joint Workshop with ICES**

STECF is requested to review the report of the **SGMOS-09-01 Joint Workshop with ICES** of January 28 - 30, 2009 (Copenhagen) meeting, evaluate the findings and make any appropriate comments and recommendations.

##### **Background**

As agreed at the Autumn 2008 STECF plenary (Report STECF/PLEN0803, 2008), and in recognition of the need to improve planning, coordination and consistency of processes for developing and evaluating management plans, a joint STECF/ICES workshop on the evaluation of management plans was convened in Copenhagen from 28-30 January 2009. The findings of the workshop are reported in ICES (2009).

The aim of the workshop was to agree on processes and methodological approaches to be used in the evaluation of management plans. It transpired that there was some difference in understanding on the overall aim between ICES/STECF and the Commission. The Commission had foreseen that the workshop would primarily address the issue of how best to evaluate the effectiveness of management plans after they had been implemented, whereas ICES STECF had considered the focus to be on how best to evaluate the potential outcomes of management plan proposals before they had been implemented. In practice, the meeting focused almost wholly on the processes and methodological approach to the evaluation of plans before they are implemented.

The Workshop had a short to medium term focus. It was agreed in Autumn 2008 STECF plenary (Report STECF/PLEN0803, 2008) that this Workshop should be followed by a second Workshop to focus on longer term issues. These include for example the evolution of plans from single stock Harvest Control Rule (HCR), to plans for fisheries defined by fleets and multiple species, and to Ecosystem Based Fishery Management plans. Since the second workshop is policy oriented, it should be convened by the EC or another policy/management entity.

The meeting was co-chaired by STECF chair John Casey and ICES ACOM chair Mike Sissenwine. The ICES report of the meeting was prepared by the ICES Secretariat with editorial input from the Co-chairs of the Workshop (ICES, 2009).

During discussion in the STECF Plenum of April 2009, STECF identified a number of general issues relating to management plan evaluations and the reported outcomes of the workshop that were worthy of mention and which would potentially improve future co-operation between both advisory bodies.

##### **Terms of reference for the Joint ICES/STECF Workshop on the evaluation of Management plans**

In the Autumn STECF Plenary 2008, STECF together with ICES representatives identified the following issues to be addressed at the workshop:

1. Review existing frameworks on management plan development and evaluations
2. Propose (for adoption by STECF and ACOM) a practical methodology and criteria for consistent evaluation of existing management plans to be applied during 2009.
3. Describe implementation issues or confounding factors that are not usually modeled, but nevertheless should be addressed during management plan evaluation.
4. Propose roles and responsibilities for managers, stakeholders, and scientists for the development and evaluation of management plans over the next year or so.

The TOR of the ICES – STECF meeting were as follows:

- 1 ) Review ICES and STECF experience with the development and evaluation of Fishery Management Plans.
- 2 ) Summarize the status of current Fishery Management Plans and priorities for future Plans.
- 3 ) Agree on short term priorities for evaluation of the backlog of existing unevaluated Plans.
- 4 ) Agree on criteria for the Evaluation of Management Plans.
- 5 ) Agree on a practical modelling framework for short term priority evaluations (ToR 3) and to provide near real time feedback on HCR options during the process of developing future Plans.
- 6 ) Consider the roles and responsibilities of ICES, STECF, managers (e.g., EC) and stakeholders (e.g., RACs) in the development of future Management Plans.
- 7 ) Consider alternatives to the implicit HCR used by ICES to give precautionary advice for stocks below  $B_{lim}$ .

The issue number 3 from STECF plenary list was not included in the Workshop TOR. It relates to evaluation of management plans already implemented (*a posteriori* evaluations), whereas this workshop decided to focus on Evaluation of management plan proposal (*a priori* evaluation). The somewhat conflicting views on the exact aim of the workshop in preparation stage are reflected somewhat in the focus of the meeting.

### **STECF Observations on the Workshop Report and on Management plan evaluations**

The ICES report (ICES 2009) deals primarily with the assumptions needed in harvest control rule simulation tests. In addition, STECF wishes to comment on the following issues:

#### **1) Current ICES evaluations: focused on precautionary approach**

ICES give advice to several countries, including countries outside of EU. It has adopted the Precautionary Approach for the framework for evaluation and precautionary reference points have been adopted to make the PA operational.

However, STECF must provide advice which fulfils all requirements of CFP legislation. Article 33(1) of Regulation (EC) No 2371/2002 defines that “*The STECF shall be consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations*”.

In summary it can be stated, that STECF evaluations must include several criteria other than the Precautionary Approach. ICES evaluations support only one of the criteria given in CFP legislation and international agreements.

#### **2) The aim of reaching MSY by 2015 (Johannesburg aim)**

Current ICES *a priori* evaluation of management plans is set up to evaluate if a management plan is consistent with the precautionary approach and does not include evaluation against MSY criteria. STECF continues to underline the importance of including MSY criteria in advice and evaluation of management measures. To this end STECF draws the attention to its advice from 2005 (STECF 2005 report) where STECF suggested that all age groups in 2015 should have been exploited at  $F_{msy}$  or a suitable proxy over their whole life cycle after recruiting to fishery, to meet the requirements of the Johannesburg agreement.

### **3) Evaluation criteria and economics**

STECF also notes that, under the CFP, management plans need to be developed in the context of the overall objectives of the CFP, which include social and economic considerations as well as biological and ecological criteria.

The views outlined in a text prepared by STECF economists during the Workshop are not fully reflected in the ICES report of the Workshop. The STECF views are set out below.

#### **Background**

No management plan has so far included specific economic objectives in the ICES area. Contrary to the biological reference points, there is no general agreement regarding economic criteria, such as a minimum profit level for a particular fleet.

It is important to make a distinction between management (or recovery) plans as defined in EU legislation and the overall management of a fishery. The latter necessarily includes decisions about allocation of fishing opportunities, for example, which are taken at MS level and are not dictated by the plan adopted at Community level. From an economic point of view, the allocation mechanisms or management instruments used are of huge importance in determining the economic consequences of a management plan. This includes the ability of fleets to adjust their capacity to the new constraints imposed by the management plan.

Economic analysis will take fleets as the focus of analysis, rather than stocks, since a single stock may be utilised by several fleets at the same time while a single fleet may target a number of different stocks.

#### ***A priori* vs. *a posteriori* evaluations**

As explained above, a distinction can be made between *a priori* and *a posteriori* evaluation of management plans.

Setting up a management plan should ideally include an *a priori* analysis of the consequences of using different instruments to reach the specified objectives, but this would be a hugely complex task. At present, *a priori* analysis assumes, implicitly, that the management instruments employed at MS level are unchanged. The approach to economic analysis in this case is the topic of the next ICES/STECF meeting focussing on the long-term approach to evaluation of management plans.

*A posteriori* evaluation on the other hand looks at a historic development and estimates the economic consequences of the specific management plan as it has been implemented. These consequences will, however, be dependant upon many factors apart from the management plan itself, including the allocation mechanisms adopted by individual MS, levels of enforcement, other legislation in place, input and output prices, etc.

The economic indicators (cf. next section) used for an economic evaluation of a management plan, are the same in the *a priori* and *a posteriori* situation.

### **Economic indicators**

With the lack specific economic criteria, *a posteriori* economic evaluation of a management plan is generally done by comparing the development in a base scenario (unchanged management) with the development in the management plan scenario. This will thus require determination of what would have happened, if the management plan had not been implemented, i.e. base scenario.

Generally, economists have used the following indicators in order to describe the economic consequences of different management plans:

- *Value of landings* ~ revenue from sale of fish.
- *Gross Cash flow* ~ income minus all operational costs (excluding capital costs).
- *Break even revenue* ~ long term break even revenue. The income (revenue) level at which economic profit is zero.
- *Gross Profit* ~ income minus all costs, including capital costs.
- *Gross Value added* ~ contribution to gross national product (GNP). Income minus all expenses except capital costs and crew cost.
- *Fleet size and composition*
- *Employment*

### **4) Other issues related to the *a posteriori* evaluation**

STECF considers that the first *a posteriori* evaluation of management plans, carried out after three years from first implementation year, should especially include issues related to the implementation of the plan and changes in the fisheries concerned.

STECF noted that it may be difficult after only three years to evaluate stock responses to the management plans. Firstly, there is in general a one to two years delay in stock assessments. This means that in many cases stock assessments conducted three years after the implementation of a plan will only include data for one year after the implementation. Secondly, the uncertainties associated with a stock assessment may mean that the response in stock development may not be clearly identifiable after three years. Easily 5 – 10 years are needed to see the positive impact of increased biomass on future recruitment.

However, STECF considers that these few years may have provided such information which is especially useful for the evaluation of the implementation issues or confounding factors that are not usually modelled. The response strategies of the fleets, possible shifts to other stocks or species and other behavioural issues can already be evaluated even though their prediction before the implementation is a demanding task. Because such factors may have a huge impact on the success of plan, they may need an early revision if needs are identified in the evaluation.

These alternative, but potentially important implementation details include for example the following: fishing permits, logbooks, recording of fishing effort, margin of tolerance, entry and exit rules, allocation of fishing possibilities, prior notification, designated ports, weighing of landings, etc. Many of these have an impact on implementation success, and therefore these should be explored in close co-operation with stakeholders. Estimates of actual costs are an important part of a cost – benefit analysis to evaluate the economic performance of the plan.

Due to the fact that many important evaluation issues after three years of implementation are related to implementation and the attitude of stakeholders, STECF considers that these evaluations should be undertaken through a joint evaluation group comprising scientists, administrators and stakeholders.

#### References:

STECF/PLEN-08-03 (2008). 29th Plenary Meeting Report of the Scientific, Technical and Economic Committee for Fisheries. JRC, scientific and technical report, ISBN 978-92-79-10940-9.

ICES 2009. Report of the ICES-STECF Workshop on Fishery Management Plan Development and Evaluation (WKOMSE). ICES CM 2009/ACOM:27. 36 pp.

## **5. ADDITIONAL REQUESTS SUBMITTED TO THE STECF PLENARY BY THE COMMISSION**

### **5.1. Ecosystem approach and bio-economic modelling**

#### **Background**

Scientific advice on fish stocks and on rules to be taken into account to establish possible fishing opportunities is currently delivered on the basis of last available biological information. Such a process with a stock-by-stock focus does not allow for the development of management proposals based both on the ecosystem or for a fisheries métier approach taking social and economical information into consideration.

Even in the cases where economic advices have been delivered it has been generally established in a step-wise process with the economic analysis being added after the biologists having worked the first step. This is surely not the best way to integrate information and analysis by all scientific fields dedicated to fisheries management.

A more integrated ecosystem and fisheries approach is particularly relevant in such contexts where multi-species and multi-métier fisheries are predominant. More generally, it would be also relevant to ease comparison to be made by policymakers and stakeholders when they have to discuss different options and to manage the impact of fishing activities on exploited stocks and ecosystems.

#### **Terms of References**

STECF is consequently request to discuss the following points and to discuss and to suggest reliable methodologies and possible improvements to be used and implemented when scientific advice on stocks will be reviewed with the aim to deliver more integrated information to the DG Mare.

*1 – Possible integration methods of biological and economic assessments delivered on a stock by stock approach when such stocks belong to species with similar characteristics.*

*2 – Use of biological and economic indicators characterizing ecosystem status and their exploitation level and sustainability, discussion on the list of indicators agreed by the STECF plenary (already included into the new Data Collection Framework) and related comments to possibly suggest adding trophic and/or socio-economic indicators.*

*3 – Discuss available and reliable modelling approaches applied to describe ecosystems, particularly EcoPath, Ewe and EcoTroph and bio-economic models.*

This discussion should also allow identifying

- ✓ the geographical accuracy to be taken into account when delivering such integrated advice:
  - ecosystems already identified in European waters,
  - fisheries considered as a bio-geographical context characterized by a stock or group of stocks, where fishing vessels catch them either as targeted species or associated species, by using different gear types and by developing different fishing strategies;
  - areas covered by RACs,
- ✓ Modelling approach which would be yet used efficiently in some eco-regions, ecosystems, fisheries and/or on some similar stocks (to be possibly listed).
- ✓ Data which would be needed to run such modelling approaches by segregating the following
  - Those data that are available
  - Those data that are not available at this stage but are already included in the new Data Collection Framework
  - Those data that would need complementary sampling protocols
- ✓ Methodological and IT developments, which are still needed.

## **STECF comments**

According to the Commission request, STECF firstly made general comments and suggestions on the implementation of EAFM and bio-economic modelling. Secondly, STECF discussed a non-exhaustive list of currently available tools that seem to be useful, and that could be more widely used or tested in Europe, in order to progress in that direction..

### **1. How to improve the implementation of EAFM and bio-economic modelling**

STECF notices that the DG-Mare interpretation of the Ecosystem Approach to Fisheries Management (EAFM) is as follows: “the approach that strives to balance diverse social objectives, by taking into account knowledge and uncertainty about biotic, abiotic, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries” (EC, 2008 SEC(2008) 449). STECF notes that, at present, scientific advice supporting the implementation of the CFP focuses on the impacts of fishing itself.

However, as methodologies and data required for more integrated analyses become available, more comprehensive implementation of the ecosystem approach will increasingly take into account all human activities in the marine ecosystem.

STECF recognises that implementing the Ecosystem Approach to Fisheries Management (EAFM) including the development of associated ecological and bio-economic models constitutes an important challenge and an urgent need in Europe. Scientific advice on fish stocks status and fisheries management are mostly delivered on the basis of stock by stock biological assessment; while more integrated approaches should also be taken into account, including the integration of the assessment of fishing at the ecosystem level as well as social and economic aspects. Especially in a multi-species and/or multi-métier fisheries, integrated ecosystem based approach is particularly relevant in order to assess the impact of fishing activities on both targeted stocks and the wider ecosystem, as well as assessing the impact of proposed management measures on the fisheries and métiers concerned.

From an economic point of view, the management of the ecosystem should ideally be based on a valuation of all ecosystem goods and services, including the intrinsic value of, for example, corals, seabirds and marine biodiversity as well as amenity values associated with the marine environment. Although a large literature exists on methods for the valuation of unpriced goods and services (such as contingent valuation), these methods are not unproblematic and may not be suitable for management purposes. From a practical perspective, EAFM will inevitably involve compromises between the economic gains from use of the marine environment (for example, fishing) and the costs associated with unwanted impacts such as habitat damage, loss of biodiversity, cetacean mortality, etc. In theory, if all costs and benefits can be measured, the social optimum can be determined, but in practice it will rarely be possible to measure *all* costs and some “rule of thumb” approach will need to be adopted, such as choosing between scenarios with different ecosystem impacts. In this context, science will need to provide assessments of the ecosystem impacts of different management scenarios.

One of the main and explicit objectives of the ecosystem based approach to fisheries management, as defined under Council regulation (2371-2002), is to optimise economic activity while seeking to minimize the impact on the relevant ecosystem (i.e. damages on habitats or reduction in stock abundance, etc). Obviously, the objective of minimizing the ecological impact should not be understood as an "absolute minimization" (otherwise, one should close all fisheries!), but relatively to a compromise with the economic or social objectives. Various levels of fishing effort and various fishing patterns (including métiers choice) may lead to the same profitability, but induce different stock abundances or ecosystem impacts. A precautionary approach is likely to require the selection of the fishing regime which minimizes the impact at the ecosystem level.

The scale taken into account is crucial and should be relevant for the management purposes. Currently, biological and economic data are available at different scales. STECF suggests that the principle scale of analysis should be the ecosystem and data should be (dis)aggregated accordingly. However, the scale at which meaningful economic analysis can be carried out might differ in cases where the same fleets operate in different ecosystems. STECF suggests that for each of the ecosystems defined, such fleets be identified and the economic links between ecosystems be taken into account in analyses.

It is the opinion of STECF that a first step for improving EAFM and bio-economic modelling is to define an agreed list of "reference ecosystems" (or "marinographic areas"). This scaling should take into account the limits of the RACs, and probably define sub-areas within RACs.

STECF considers it to be an urgent and prior task to setup the organizational structure for addressing future ecosystem analyses. An initial step should be to convene a working group under the auspices of STECF-SGMOS to define a general analytical framework, data availability and illustrate this on some case studies.

## **2. Some available tools**

EAFM and fisheries bio-economic modelling represent a considerable field of research and STECF was not in a position to provide for a comprehensive answer regarding the available tools for ecosystem analysis. However, practical answers to the three questions raised by the Commission can be given:

1) – Possible integration methods of biological and economic assessments delivered on a stock by stock approach when such stocks belong to species with similar characteristics.

Among works recently published regarding graphical representation of biological assessments, three approaches have notably been identified by STECF as potential useful tools. They all have been used in specific contexts but should probably be tested more widely:

i) Garcia and De Leiva (2005) proposed to calculate and to represent the mean trajectory of a pool of stocks on the usual graph of the precautionary approach, using standardized values of fishing mortalities and SSB (standardized values are equal to 0 for the  $F_{lim}$  and  $B_{lim}$  and equal to 1 for  $F_{pa}$  and  $B_{pa}$ ). The method was applied to a pool of 14 demersal and pelagic stocks from the North-East Atlantic area, showing in that case study a global decline from the safe zone to close to the high risky zone during the 1970s and 1980s, and a stabilisation or a limited recovery during the last studied years. STECF notes that such a method could be applied to any pool of species that have been assessed (and for which precautionary approach limits have been defined) in a given region, without particular difficulties. The method can usually be extended to other targets, especially considering  $B_{lim}$ ,  $B_{msy}$ ,  $F_{lim}$  and  $F_{msy}$  as the boundaries used in such a graph.

ii) Gros (2008) plotted on the standard graph of the precautionary approach the current status of all assessed stocks which are important for the French fisheries. As Garcia and De Leiva values of  $F_{lim}$ ,  $B_{lim}$ ,  $F_{pa}$ ,  $B_{pa}$ , were previously standardised. Compared to the previous one, such graph misses the dynamic evolution of the system but allows for presentation of the heterogeneity between stocks status.

iii) Froese et al. (2008) built synthetic diagnosis from a pool of species exhibiting similar or closely related biological characteristics. The diagnosis is based on two common graphs of relative isopleths, one regarding yield per recruit and the other biomass per recruit. Such graphs are based on mean parameters of growth and natural mortality and isopleths are expressed as functions of the exploitation rate  $M/Z$  and the size at first catch. In such a graph, the current state of each of the considered stocks can be plotted, as well as any state simulating a change in the exploitation rate or in the size at first catch. Thus, STECF notes that such a method allows for simulation of various exploitation patterns, but uncertainty is introduced in the method using mean common biological parameters for all stocks taken into account.

With respect to the integration of biological and economic information, STECF notes that in order to take management decisions, biological assessments (preferably integrated as described above) should be completed with information on fleets (contribution of each fleet to fishing mortality, economic dependency on stocks, technical information, economic information) and co-occurring species (commercial and non-commercial). The information on the economic performance of the



fleet is currently available from the DCR on a fleet segment level. It can be linked to the biological information through the species composition (this information is available on the scale of ICES area).

*2) – Use of biological and economic indicators characterizing ecosystem status and their exploitation level and sustainability,*

A list of ecosystem indicators has been proposed by the STECF (STECF/SGRN-06-01 report “Revision of the Data Collection Regulation to take into account the ecosystem approach”; STECF/PLEN-06-02 Report of the 23<sup>rd</sup> STECF plenary meeting). During its plenary meeting in November 2007, STECF especially noted "Some indicators could be made operational in the short term, based on existing knowledge and data that were already collected as stipulated in the DCR" (see Tab.5.1). This is reflected in the new DCF and was as well communicated by the Commission to the Council and the EU parliament (COM/2008/0187final. Communication from the Commission to the Council and the European Parliament - The role of the CFP in implementing an ecosystem approach to marine management.). Consequently, the DG MARE has requested ICES to provide an assessment according to the definition of indicators 1 to 9 on a regional basis. Additionally, JRC has been requested to provide similar assessments for indicator 10. Results of these analyses are not available at the moment.

Tab.5.1 – List of ecosystem indicators (from the Commission Staff Working Paper: Report of the Ad Hoc Meeting of independent experts on Indicators and associated data requirements to measure the impacts of fisheries on the marine ecosystem. Brussels, 25-27 June 2007, 32p.)

<b>Code</b>	<b>Indicator</b>	<b>Definition</b>
<b>1</b>	<b>Conservation status of fish species</b>	Indicator of biodiversity to be used for synthesizing, assessing and reporting trends in the biodiversity of vulnerable fish species
<b>2</b>	<b>Proportion of large fish</b>	Indicator for the proportion of large fish by weight in the assemblage, reflecting the size structure and life history composition of the fish community.
<b>3</b>	<b>Mean maximum length of fishes</b>	Indicator for the life history composition of the fish community
<b>4</b>	<b>Size at maturation of exploited fish species</b>	Indicator of the potential “genetic effects” on a population
<b>5</b>	<b>Distribution of fishing activities</b>	Indicator of the spatial extent of fishing activity. It would be reported in conjunction with the indicator for ‘Aggregation of fishing activity’.
<b>6</b>	<b>Aggregation of fishing activities</b>	Indicator of the extent to which fishing activity is aggregated. It would be reported in conjunction with the indicator for ‘Distribution of fishing activity’.
<b>7</b>	<b>Areas not impacted by mobile bottom gears</b>	Indicator of the area of seabed that has not been impacted by mobile bottom fishing gears in the last year. It responds to changes in the distribution of bottom fishing activity resulting from catch controls, effort controls or technical measures (including MPA established in support of conservation legislation) and to the development of any other human activities that displace fishing activity (e.g. wind farms).
<b>8</b>	<b>Discarding rates of</b>	Indicator of the rate of discarding of commercially

	<b>commercially exploited species</b>	exploited species in relation to landings.
<b>9</b>	<b>Discarding rates in relation to landed value</b>	Indicator of the rate of discarding of commercially exploited species in relation to the total value of landings. It is one measure of the relative environmental impact of different fisheries.
<b>10</b>	<b>Fuel efficiency of fish capture</b>	Indicator of the relationship between fuel consumption and the value of landed catch. It will provide information on trends in the fuel efficiency of different fisheries.

Additionally to this list, STECF also noted in its 2007 plenary meeting Report (STECF/PLEN-07-03) that:

- usual (and available) indicators of fishing impact on biomass or SSB of the targeted stocks are part of the ecosystem approach to fisheries.
- trophic level indicators should continue to be considered as potentially useful in an ecosystem approach to fisheries and that diet data are fundamental to an improved understanding of species and trophic interactions.

STECF also notes that more general descriptors, related not only to fisheries impacts but to ecosystem health, have been approved under the auspices of the Marine Strategy Framework Directive (based on the Water Framework Directive, and OSPAR, HELCOM, Barcelona, and Black Sea conventions). STECF notes that related indicators and methodologies are still to be agreed.

With respect to economic indicators on the fishing sector, STECF observes that during the working groups on the balance between capacity and the fishing opportunities and in the AER, some standardised indicators on economic performance are proposed. The indicators used in the AER (e.g. gross revenues, gross value added, net profit) are considered to be suitable to value the fishery outcomes in the first instance and with that, the value of the exploitation of commercial species. At a later stage other more direct economic indicators on the value of the stocks, such as the net present value of the commercial species or the resource rent could also be considered.

3) – Discuss available and reliable modelling approaches applied to describe ecosystems, particularly EcoPath, Ewe and EcoTroph and bio-economic models.

STECF notes that several hundred ecosystem models have been built in the world, using the Ecopath and/or Ecosim software (EwE)<sup>13</sup>. Some of them, related to European ecosystems, considering very heterogeneous scales (from small coastal areas to the whole North Sea). Undoubtedly, such models may contribute to the understanding of relationships between species or groups and of the trophic ecosystem functioning. They often provide useful diagnoses on the current state of ecosystems and a synthetic overview on the knowledge we have on the specific case under study. At the same time, it is generally admitted that such models have a limited power to make forecasts and if so with a high level of uncertainty. EwE models have been used to explore scenarios, including management options, and to analyse the ecological consequences on all the biological compartments. On the other hand, such models have for the moment never been used in any mandatory working groups in charge of the scientific advice. Usefulness of this approach in the management process therefore still needs to be tested and demonstrated.

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<sup>13</sup> Polovina 1984; Christensen and Pauly 1992; Walters *et al.* 1997

EcoTroph (ET)<sup>14</sup> is a more recent approach, providing a simplified representation of the ecosystem functioning and a way to estimate production functions and to make diagnoses of fishing impact at the ecosystem level. Even if this approach according to the developers is considered to be promising, it is recognised that little experience has been accumulated on its usefulness for management purposes.

With respect to bio-economic models, STECF notes that the report on the review on bio-economic models (Prellezo et al, 2009) provide a good overview on the current state of the art of bio-economic modelling and a framework to select models based on objectives and data availability. None of these models has been developed to consider questions related to the ecosystem. However, STECF considers that in specific cases where multi-species multi-fleet analyses are requested, adjustments to the models might be small, whereas in order to develop more complete ecosystem bio-economic models considerable resources will be needed.

STECF notes that besides these models, the F-cube approach has been developed in order to model effects of management measures in a multi-species/multi-fleet context (Ulrich et al., 2006, CIEM 2006). Based on assumptions on the behaviour of fishermen (optimising TAC uptake of all species or target species, maximising sea days), this model predicts *inter alia* catches of each species by each fleet, the implied fishing mortalities and the resulting SSB. However, the economic part of this model is very limited and no conclusions can be drawn on the economic effects of the imposed management measures.

STECF concludes that based on the current information, no selection can be made of the preferable bio-economic models to be utilised. More information is needed with respect to the specific needs for a model, such as region, type of management restrictions, number of species and involved fleets.

More generally, a common standard model taking into account all the complexity of an ecosystem, including both ecological and economic dynamics, currently does not exist or has emerged from the scientific community as a consensual tool. Several models are likely to be built on each ecosystem providing different views of its functioning and dynamic. STECF notes that complementarities exist between trophodynamics approaches such as EwE or ET, and bio-economic models. It is likely that both approaches could be usefully used in parallel.

STECF considers the three kinds of tools mentioned above is a way to look at the current trade-off between economic profitability and ecosystem impact. Integrated assessment tools deals with the impact on targeted stocks (which is part of ecosystem approach), while indicators are related to the ecosystem level, providing tools to assess the impact of fishing on the various biological compartment of an ecosystem, but also on habitat, or on emerging properties of ecosystems (productivity, stability, resilience, ...). Bio-economic and ecological models should especially be used to explore the consequences, in term of fisheries profitability (and hence fishermen behaviour and dynamics) and ecosystem impact, of various management options.

### **STECF recommendations**

Based on the above considerations, STECF recommends that:

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<sup>14</sup> Gascuel 2005; Gascuel *et al.* 2009

- In order to set out a roadmap to further consider the possibilities for implementing an ecosystem approach, a STECF subgroup should be set up under the auspices of STECF-SGMOS, with participation of ecologists, biologists and economists.
- It is recommended to devise the development of such a decision support system in three steps.
  - o In the first step a fisheries information system should be devised. This system, based on marinographic area, should bring together existing data on fish stocks, ecosystem indicators and economic data. For each area an analysis of available and lacking data should be made. Based on this data, ecosystem indicators can be developed.
  - o In the second step for each marinographic area an appropriate set of analytical tools (models) should be devised based on the characteristics of the ecosystem and economic system. It is advised that a preparatory group will prepare a comprehensive overview of available models and applicability to given circumstances. Development of ecosystem models and bio-economic models can be set up parallel, with the bio-economic models evolving from multi-species models on commercial species to models that include both direct and indirect effects (ecosystem interactions) on commercial and non-commercial species.
  - o In the third part the data base and models should be brought together in a Decision Support System: a data and modelling environment capable of providing an *ex-ante* impact assessment of proposed management measures on the ecosystem and the economic system.
- A pragmatic first step should be taken to use the tools described in relation to question 1 above, to show changes in the biological status of the species and to include economic information in the assessment.

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## **5.2. Evaluation of Management and Recovery Plans already in place – Possible terms of reference and evaluation descriptors related to socio-economic information**

### **Background**

Several management and recovery plans, which have been adopted by the Council since the year 2002, will have to be evaluated within the years 2009 and 2010. To try to streamline the evaluation methodology of such plans and to include both biological and economic information in such exercise, DG Mare drafted terms of reference to be submitted to ICES and STECF when evaluating those plans.

### **Terms of References**

STECF is consequently requested to comment those possible terms of reference, to amend them as far as possible and to discuss social and economic indicators which would have to be included in them.

### **STECF comments and recommendations**

#### ***Evaluation objectives***

The CFP operates with two types of fisheries management plans: recovery plans and management plan. The main difference between the two types of plans is that recovery plans shall include measures to limit fishing effort while management plans may include such measures. In practise no distinguish between recovery and management plans is made and the general term multi annual management plan (MAMP) is used for both.

The Commission must before the end of 2009 (beginning 2010 for the Baltic cod MAMP) conduct an evaluation of five of the multi annual management plans currently in place. The five plans are:

- North Sea sole and plaice management plan

- Bay of Biscay sole management plan
- Southern hake and Norway lobster recovery plan
- Western Channel sole management plan
- Baltic sea cod management plan

According to the rules laid down in the plans, the plans shall be evaluated at regular intervals and the Commission is obliged to seek scientific advice from STECF on the rate of progress towards the targets of the management plan.

The objectives of the management plans in question are in general terms, to ensure sustainable exploitation and/or recovery of the stocks concerned by reducing or maintaining the fishing mortality at defined target levels.

In addition to the an evaluation of the plans against their objectives the Commission will conduct an evaluation, according to the Commission standards laid down in the internal Commission communication on reinforcing the use of evaluation (SEC (2007)213). The overall objective of the evaluation is to provide systematic information on the added value and ‘real world’ impact of regulations already implemented with a view to contribute to better regulation.

In summary the evaluation of the MAMP should include evaluations against the:

- objectives as specified in the plans,
- added values of the plans and
- impact of the plans on the “real world”.

### ***What to evaluate***

The MAMPs in general include measures on:

- Fishing possibilities in form of harvest control rules specifying how to set the TACs of the stocks concerned and fishing effort of the fisheries exploiting the stocks.
- Technical measures. Several of the MAMPs include measures on geographical or seasonal regulation of the fisheries concerned.
- Monitoring, inspection and surveillance. All MAMP contain a number of measures to strengthen existing control measures. The measures includes rules on:
  - Fishing permits
  - Logbooks requirements
  - Recording of fishing effort
  - Margin of tolerance on landings declarations in the logbooks
  - Entry and exit to the areas covered by the plans
  - Prior notification of landings

- Designated ports
- Weighing of landings

STECF considers that an assessment of the implementation and conformity of the measures should form a central element of an evaluation and should constitute the first step in the evaluation. The key questions to be answered are: Are the measures implemented? Are they enforced? Have they had the anticipated effect?

Although the harvest control rules for setting TACs may have been implemented it does not necessarily imply that the quota allocations to Member States and their management of them are consistent with the MAMP. It is therefore important that the evaluation of the implementation and conformity of the measures on fishing possibilities covers the issue at the Community level as well as the Member State level.

The second step in the evaluation should include an evaluation of:

- Fishery response. Focus should be on changes in fishing effort by fishery, changes in fishing behaviour (seasonal/geographical fishing pattern, catch composition and gear) and economic performance.
- Stock response. Has the state of the stocks concerned changed and can possible changes be linked to the MAMP?
- Cost. Assessment of the costs associated with the implementation, enforcement and monitoring of the MAMPs.

With the lack of specific economic criteria, *a posteriori* economic evaluation of a management plans is generally done by comparing the development in a base scenario (unchanged management) with the development in the management plan scenario. This will thus require determination of what would have happened, if the management plan had not been implemented, i.e. base scenario.

Generally, economists have used the following indicators in order to describe the economic consequences of different management plans:

- *Value of landings* ~ revenue from sale of fish.
- *Gross Cash flow* ~ income minus all operational costs (excluding capital costs).
- *Break even revenue* ~ long term break even revenue. The income (revenue) level at which economic profit is zero.
- *Gross Profit* ~ income minus all costs, including capital costs.
- *Gross Value added* ~ contribution to gross national product (GNP). Income minus all expenses except capital costs and crew cost.
- *Fleet size and composition*
  - *Employment*

The third step in the evaluation should include an evaluation of the need or appropriateness for changes to the MAMP. This should involve a comparison with other relevant legislation in place for the fisheries concerned.

### ***Conduction of evaluation***

STECF considers it important that the evaluations are conducted in an open and transparent process involving all relevant stakeholders. As a minimum, fisheries scientists, administrators (inspectors), fishermen and relevant NGOs should be involved in the evaluations.

STECF furthermore believes that a multidisciplinary approach is required and that it would be unwise to have the evaluations conducted by discipline-specific groups. STECF therefore suggests that the Commission set up groups of experts with representation from all relevant stakeholders to conduct the evaluations.

## **5.3. Mediterranean Sea and Black Sea: Italian national management plans**

### **Background**

Member States were expected to adopt management plans for fisheries conducted by trawl nets (demersal and pelagic), boats seines, shore seines, surrounding nets and dredges (for molluscs) within their territorial waters.

The plans shall include conservation reference points such as targets against which the recovery to or the maintenance of stocks within safe biological limits for fisheries exploiting stocks at/or within safe biological limits (e.g. population size and/or long-term yields and/or fishing mortality rate and/or stability of catches). The management plans shall be drawn up on the basis of the precautionary approach to fisheries management and take account of limit reference points recommended by relevant scientific bodies.

The plans shall ensure the sustainable exploitation of stocks and that impact of fishing activities on marine eco-systems is kept at sustainable levels.

The Management plans may incorporate any measure included in the following list to limit fishing mortality and the environmental impact of fishing activities: limiting catches, fixing the number and type of fishing vessels authorised to fish, limiting fishing effort, adopting technical measures (structure of fishing gears, fishing practices, areas/period of fishing restriction, minimum size, reduction of impact of fishing activities on marine ecosystems and non-target species), establishing incentives to promote more selective fishing, conduct pilot projects on alternative types of fishing management techniques.

### **Terms of Reference**

STECF, in line also with the previous reviews carried out during the STECF Plenary sessions in 2007 and 2008, is requested to review the national management plans, to evaluate their findings, to make appropriate comments, also with respect to the elements/measures included in the management plan, and to advise whether the plan contains elements that account for the state of the exploited resources, if concerned fisheries are expected to exploit main target stocks in line with their production potentials and if the plan is expected to maintain or to revert fisheries productivity to higher levels and in which time frame.



STECF should also evaluate whether the justifications for possible derogations to the minimum distance from the coast are coherent with the technical conditions established in Article 13 (5), (9), (11) and, in particular, if are compatible with the sustainable exploitation of exploited stocks, if there is no significant impact on the marine environment and, finally, if the catches of species subject to the minimum size are negligible or acceptable.

STECF is requested to evaluate first of all the biological side of the plans and whether, and advice accordingly, the plans have regard to:

- the conservation status of the stock or stocks (low level of stock size?; current stock size with respect to "pristine" stock size, etc.);
- the biological characteristics of the stocks (read also production potentials etc..)
- the characteristics of the fisheries (i.e. sustainability of the fisheries, exploitation in line with production potentials, etc.);

In conclusion, STECF is requested to evaluate:

- if the Plans are sufficient to ensure a high level of protection of resources and environment for sustainable exploitation;
- if this statement be proved/evaluated with the scientific suitable tools available to fisheries scientists;
- if the Plans include the necessary elements and data to assess the economic and social impact;
- if the Plans contain all these scientific elements.

### **STECF response**

Article 19 of Council Regulation (EC) No 1967/2006 indicates that Member States should notify their Management Plans to the Commission by September 2007. STECF had already evaluated several Management Plan presented by Mediterranean MS (see STECF Plenary Report on November 2007, April 2008, July 2008 and November 2008).

STECF reviewed the proposed Management Plans submitted by Italy in October 2008 and concluded that they partly meet the requirements of Article 6 of the Council Regulation (EC) No 2371/2002.

The Italian “Management Plans for certain Fisheries in the Mediterranean” consist of eight main parts, one for each GSA concerned (one includes two GSAs for the pelagic fisheries) and one for Sicily (due to the autonomous Regional Government and its competence on fishery issues). Each part also includes separate plans for specified fisheries, usually one for bottom trawl fishery, another for purse-seine fisheries targeting small pelagic species (in some cases, pelagic trawlers are also included), and one about other fisheries, apparently including many métiers, some of which are currently operating under existing derogations.

STECF notes that the Italian Management Plans are supported by some scientific information relating to the status of the main target stocks and include conservation reference points. Furthermore, the Management Plans include many economic data and an economic and social impact assessment.

The objectives of the various Plans are defined and as a result the expected time-scale to reach the objectives, as stated in Article 6 (2), (3) and (4) of the Council Regulation (EC) No 2371/2002, can be foreseen, at least for the most important objectives. The time frame proposed by the Plans for the fishery concerned is set with an explanation of why that time frame has been chosen.

STECF acknowledge the integrated approach and the clear effort made by the Italian Authorities to provide several important elements which are essential to develop the Plans and to describe the very complex nature of the Italian fisheries, which includes multi-species and multi-gear activities, carried out in many GSAs under different conditions.

STECF also supports the general approach of the Italian Management Plans to develop proper management procedures within each GSA, consistent with the GFCM approach. However there is a real need to take into account the deployed distribution of fishing effort in relation to the distribution of the stocks exploited.

STECF notes that some of these elements have been taken into account, while others are not available in the Plans presented by the Italian Authorities.

As a general comment STECF wishes to point out that requests to evaluate such a large number of management plans is exceedingly difficult to manage in a Plenary meeting where there are other issues to address. STECF recommends that, in similar future cases, the workload could be managed more effectively by arranging ad-hoc contracts, or a separate working group meeting to provide an initial evaluation for further examination and adoption by STECF. It is suggested that DG Mare and the STECF Board discuss how this can best be achieved.

General comments in relation to the proposed management plans are given in section 5.3.1 below. Specific comments on each plan by GSA are presented in Section 5.3.2.

### **5.3.1 GENERAL COMMENTS FOR THE ITALIAN MANAGEMENT PLANS**

The general organisation and structure of each Management Plan proposed by the Italian Authorities for the main fisheries is in line with the provisions of Council Regulation (EC) No. 2371/2002 and No. 1967/2006. Each plan has a common format and contains a description of each geographical area considered, a description of the fishery concerned, a description of the important resources exploited and an analysis of relevant economic and social data. This format has resulted in considerable duplication of some aspects e.g. GSA descriptions and model descriptions and while each plan can be read in isolation, STECF may have been able to work more efficiently had the descriptions common to all plans, be presented in an introductory overview.

STECF noted that the Italian Authorities had ensured the social and economic impact of the Management Plans was addressed and had made use of economic data collected under the DCR framework. STECF also welcomes the integration of biological and economic information and assessments in the management plan proposals.

STECF notes that the Italian Management Plans were also provided in copy to the GFCM (in the absence of the Mediterranean RAC at the time of the submission), in agreement with the philosophy of Article 19 (8) of Council Regulation (EC) No. 1967/2002, in consideration of the implications for stocks shared with other States.

The list and description of protected areas or zones where fishing activities are restricted or prohibited is extensive and supported by maps. Several areas for the protection of nurseries areas are also proposed. STECF notes however, that no evaluations of the effects of existing or proposed MPAs have been undertaken.

Some of the Management Plans concern fisheries not included in art.19 (1) of Council Regulation (EC) 1967/2006, and STECF had difficulty in identifying which specific fisheries the data and analyses related to.

In all the Italian Management Plans, an evaluation of biological, social and economic impacts of specific management measures is provided using simulation modelling. The use of such models to assess the various scenarios proposed is considered a positive step and provided their limitations are taken into account, they constitute a useful aid in assessing whether the objectives are likely to be achieved in the intended time-frame.

A “biological” model (ALADYM) has been applied in order to simulate the likely consequences of variations in pressure factors (e.g. mortality), management (e.g. variations in mesh, temporary suspension) and biological characteristics (e.g. recruitment) on single-species populations. Such an approach, which makes exclusive use of fisheries-independent information, provides insight into potential outcomes in response to management measures even though multi-species interactions are not taken into account. STECF notes that this approach has already been adopted at the Community level during the development of the EFF (European Fisheries fund). However, the model used is unable to take account of either the effects on age-specific fishing mortality generated by other fisheries targeting the same species (i.e. bottom longlines or nets for the European hake) or the overall yield to the fishery arising from the capture of other species exploited by the fishery. In addition, the approach used is unable to model spatial dynamics in seasonal effort allocation or temporal changes in exploitation (partial selection) pattern. Such effects can have an important bearing on the outcome of management measures and hence the results from the ALADYM model should be considered indicative rather than definitive. There is a lack of information about how the overall current exploitation rates have been calculated for the gear/species and areas concerned.

STECF notes that an assessment of the biological and socio-economic impact of management measures designed to reduce fishing effort (permanent cessation, temporary cessation or fishing net selectivity) is presented. Estimates of the short to medium-term impact of each management scenario with respect to each indicator are presented and discussed. Further management measures are described in the plans (e.g., reduction of fishing days, setting of catch levels, introduction of specific closed seasons and areas). However, it is not clear which of such measures will be applied or when. STECF notes that most management measures described in the plans may already be in force or will be included in the so called “adjustment plans” referred to in the “Operational Programme for fishing in Italy”. STECF has no information on the Italian Operational Program and is not aware if the measures included in this Program and listed in the Management Plans for some GSAs are new proposals or whether they are already in force. In the absence of such information, STECF is unable to adequately assess their likely effects.

Statistical data for most plan proposals, presented in Appendix II (fishing capacity, fishing effort, landings, catch composition, CPUEs, economic variables, etc.) are summarized for a limited number of years and for a limited number of species. As such they are not very useful in evaluating the potential impact of the plans. An inventory of commercial species and discard data by fishery and area is not presented in any of the plans.

STECF notes that with the exception of anchovy and sardine in GSA17, no fishery-dependent data or biological data collected within the DCR (2002-2007) have been used to derive catch-at-age or catch-at-size for assessments. The lack of size/age composition data and associated biological information on maturity at size/age prevents any evaluation of the potential effects of the changes in minimum sizes specified in Council Regulation (EC) No. 1967/2002.

STECF also notes that there are few references to the status of the stocks concerned in the plan proposals and that the assessment results from work undertaken by GFCM/SAC and by SGMED-08 was only partially referred to and the work undertaken by STECF/SGECA-SGRST 07-03 and 08-03 was not referred to at all. It is apparent that the authors of the plans were probably unaware of the existence of or did not access to the reports of the latter two meetings, since STECF notes that

information contained in those reports would have been helpful to both prepare the plans and evaluate their likely consequences.

STECF notes that, according to the Italian legislation, trawl vessels registered in a Maritime Compartment are allowed to operate in the two adjacent Compartments. This implies that overall fishing effort in a specific GSA could be considerably higher than that generated by vessels locally-registered. In order to evaluate the likely consequences of effort reductions in locally-registered vessels, a measure of the current and predicted overall level of effort is required.

The status of the stocks concerned and the response to different management measures should be regularly evaluated in the appropriate Scientific Working Groups of GFCM and SGMED, and these data will help to better assess the impacts of the Management Plans.

The maps showing the presence and distribution of protected areas or areas where certain fishing activities are banned or strictly regulated are incomplete and potentially misleading. There is inconsistency between the description of such areas in the text and the areas identified on the maps. For example in some instances the relevant bathymetric limits where certain fishing activities are prohibited are not depicted.

### **Social and economic indicators**

The indicators reflect the economic and social performance of the fleets. STECF notes that a specific dynamic simulation model is used for the evaluation of socio-economic impact. Different scenarios are simulated which are based on an estimate of the variation in landing figures following the separate and combined application of the measures provided for in the plan. Expected variations in production levels for primary species groups and management areas, resulting from the application of each measure in the plan are derived exclusively from the biological (stock dynamics) model, and form the baseline for the economic model. The assessment of the future economic performance is a step forward but it has not been possible for STECF to evaluate the model used nor its output. It was not possible to assess if the economic and social reference points are realistic compared to the proposed measures, because of the lack of time to test the model outputs. Furthermore, the number of species considered in the economic evaluation is very limited compared to the total number of species that contribute to the revenues from the fishery as a whole.

Large amount of money has been allocated to temporary closures, meaning that the fishermen do not use the vessel during certain periods and are subsidised for that. This means that the effort is reduced but the capacity is maintained. From an economic point of view, financial resources should be better used.

The objectives for permanent cessation (decommissioning) vary and are in the range of 3-27% of the total capacity (kW and GT), according to fishery and area. For the trawl fleet in GSA 16, 18 and the demersal Sicilian trawl fleet <18 meters OL, the proposed decommissioning is in the range 25-27% of total capacity, which might be sufficient for the time being. It is not clear how much decommissioning will take place in GSA 19, according to the Operational Programme. For the other segments and GSAs, the decommissioning target of <5% is modest and is unlikely to achieve the desired reductions in fishing mortality especially given the potential for technological creep and is most-likely constrained by available funds.

Plans concerning other existing fishing activities, sometimes under derogation, are not presented (i.e.: boat seine fisheries for fries of pelagic species, surrounding nets used with FAD for the dolphinfish fishery, dredge fisheries for molluscs etc.). STECF notes that the several fishing activities included in the Management Plans submitted by Italy under “Other Systems” have been carried out for many years under specific derogations and that appropriate data for all fisheries

included in the Plans should already have been collected under the provisions of the DCR. If such data had been used, separate plans could have been developed for specific fisheries currently grouped under “other systems”

Several figures included in the original Italian version of the plans were not available in the English version and several problems in translations have been noticed, sometimes creating difficulties in understanding. No copy of the Management Plans submitted by the Italian Authorities was available in the original version at the meeting, except for GSA 9.

### **5.3.1. STECF COMMENTS ON SPECIFIC MANAGEMENT PLANS SUBMITTED BY THE ITALIAN AUTHORITIES BY GSA.**

#### **GSA09**

The overall objective is to reduce the exploitation rate from 0.66 (current estimate) to 0.35 (target reference point). Estimated exploitation rates are based on MEDITS and GRUND survey data. However, no explanation is given regarding the methods used to derive the overall exploitation rates. Hence STECF is unable to evaluate whether such methods are appropriate or reliable. Furthermore, the means to achieve a reduction in exploitation rate for the species complex in GSA 9 remains unclear.

The Management Plan for GSA 09 includes measures already in force (50 m minimum depth for trawling, fishing on weekends not allowed, minimum legal sizes...), and includes an existing derogation from Council Regulation (EC) 1967/2006. The Decommissioning Plan (overall 8% reduction in fishing capacity) appears to have already been agreed within the Italian Operational Programme for Fishing.

No clear information is given about the regulations in force in GSA09. It is apparent that some of the simulations consider regulatory measures already in force. Should this be the case, the results of the simulations are likely to be misleading. For example, if a temporal closure is already implemented even by part of the fleet, simulation of a closure for the same period will simply reflect the status quo without any effect on the exploitation rate. To effect a reduction in exploitation rate using a temporary closure would mean an extension to the period of closure that already exists. This will apply both to the stock response and the estimated economic performance since the output of ALADYM simulation model is used as input to the economic model.

From the simulations undertaken, the most effective means to achieve an increase in hake biomass is to implement an increase in mesh size to 50 mm. However, under the other scenarios considered in the simulations (permanent and temporary cessation of activity, and status quo) hake biomass is not expected to achieve the levels estimated in 1994.

With regard to red mullet, biomass, spawning biomass and landings are predicted to increase under all scenarios (including status quo). Deep-water pink shrimp biomass and spawning biomass is predicted to stabilize in all cases (including status quo); and landings would follow the same trend in all cases, with and without the implementation of the proposed management measures.

With respect to the Management Plan for the purse seining, STECF agrees with the statement in the proposal that “the analyses contained in this Management Plan, which are based upon simulations of stock trends with differing fishing mortality and different recruitment assumptions, should therefore be viewed as provisional and subject to review as soon as further information is available”.

## **GSA 18 - TRAWL FISHING**

A summary of the state of the stocks of selected demersal species (hake, mullet, Norway lobster) is presented in Appendix 1 of the Plan for GSA 18, based on trawl survey data using “an empirical approach” which is not explained in the text. This “empirical approach” gives estimates of exploitation rates, which are considered high in comparison to target (TRP) and limit (LRP) reference points. However, the justification for the choice of such reference points is not given and as far as STECF is able to ascertain, have not been subject to scientific scrutiny.

## **GSA 18 - OTHER METHODS**

It is not clear which fisheries this part of the Management Plan relates to. The Plan appears to include some fisheries, which are not covered by the list of gear categories specified in Article 6 of Council Regulation (EC) No 2371/2002.

No management plan is presented for hydraulic dredges or other dredges used for fishing molluscs, active in this GSA.

No management plan is presented for the vessels fishing for fry of small pelagic species, which are currently subject to a derogation from Article 6 of Council Regulation (EC) No 2371/2002 and there is no indication as to whether it is intended that this fishing activity is to continue.

## **GSA 18 & 17 – PELAGIC TRAWLING AND SEINE FISHING**

Recent stock assessments of anchovy and sardine in the Adriatic Sea (most recent assessments were presented in SGMED-08-04) indicate that, while anchovy seems to be exploited sustainably, sardine is overexploited, showing a sharp decreasing trend in SSB and recruitment during the last decade. Both stocks are shared between Italy and the States on the Eastern Adriatic coast. Because small pelagic fisheries in the Adriatic are multispecies (i.e., effort on sardine and anchovy should be considered together) there is need to reduce the overall fishing effort on pelagic resources in order to allow the sardine stock to recover.

Given that sardine is mostly fished by the Croatian fleet in the eastern part of the Adriatic, there is an urgent need that Italy collaborates with countries in the eastern part of the Adriatic, especially Croatia, in the assessment of small pelagic fish stocks and management of their fleets. This is not considered at all in the management plan. However, setting objectives for the Italian fisheries independently of the Croatian fisheries is unlikely to achieve the desired objectives. STECF therefore recommends that management arrangements for the Adriatic should be agreed through the GFCM level.

No management plan is provided for the purse seine fishing targeting bluefin tuna in the Northern, Central and Southern Adriatic Sea.

## **GSA 17 – BOTTOM TRAWLING**

STECF has no further comments, apart from those included in its general comments (see Section 5.3.1 above).

## **GSA 17 - OTHER SYSTEMS**

No management plan is presented for hydraulic dredges or other dredges used for fishing molluscs, active in this GSA.

No management plan is presented for the vessels fishing for fry of small pelagic species, which are currently subject to a derogation from Article 6 of Council Regulation (EC) No 2371/2002 and there is no indication as to whether it is intended that this fishing activity is to continue.

### **GSA 10 – PURSE SEINE FISHING FOR SMALL PELAGIC SPECIES**

This management plan applies to fishing vessels registered in the maritime areas of Campania and Tyrrhenian Calabria authorised for seine fishing. The activity of this fleet is low (a total of 64 vessels, 89 fishing days per vessel in 2006), mostly in spring and autumn, corresponding to the seasonal cycle of anchovy and sardine. STECF notes that Sicilian vessels >18 m OL which fish for small pelagic species using purse seine are not referred to either in this plan or the plan for Sicily.

The Plan reports that no current or past scientific studies are available for this area and, because of this, there is no scientific evaluation of stocks and objectives cannot be quantified. STECF notes that data on small pelagic species in this GSA were collected under the DCR framework but have been overlooked or ignored. Nevertheless, a 3% reduction in fishing capacity is proposed, including an estimate of financial resources needed to implement the planned measures. It seems that the reduction in fishing capacity may have already been agreed in the EFF Italian operational programme, but STECF is at present unable to evaluate the consequences of the reduction in fishing capacity.

In order to obtain an assessment of the small pelagic resources in this GSA 10, STECF agrees with the proposal to extend the MEDIAS echo-survey to GSA10.

### **GSA 10 – TRAWL FISHERY**

The Plan relates to demersal trawlers registered in Campania and Tyrrhenian Calabria. The vessels over 18 m OL, registered in northern coastal Sicily are not included and are not referred to.

STECF notes that the reported current exploitation rate of 0.66 is the same value as that reported in the plans for other GSAs. STECF is unable to ascertain how this estimate has been derived and is therefore unable to comment on its reliability.

The existing temporal closure in GSA 10 is not compulsory for all vessels, and has therefore only affected certain areas and boats in certain years and for various time periods. No information is provided on the number of vessels that have complied with the temporary closure. The Plan proposes a 45 days closure in September-October and 20 days closure in April-May. However, in the absence of information on the effects of the previous temporary closure on fishing effort, STECF is unable to assess the likely consequences of the closure referred to in the Management Plan.

A plan for the adjustment of fishing capacity, as well as the implementation of biological protection zones and nursery areas seem to have been already agreed within the Italian Operational Plan, but STECF is not able to assess the effects of these measures due to a lack of appropriate data.

### **GSA 10 - OTHER SYSTEMS**

No management plan is presented for hydraulic dredges or other dredges used for fishing molluscs, active in this GSA.

No management plan is presented for the vessels fishing for fry of small pelagic species, acting under a derogation regime.

No management plan is provided for the purse seine fishing targeting bluefin tuna in the Central and Southern Tyrrhenian Sea.

### **GSA 11 – TRAWL FISHERY**

The Plan is referred to the demersal trawlers registered in Sardinia. The fleet is reported to include 157 vessels. According to the data provided, in the period between 2004 to 2006 there was an increasing in fishing capacity (+6.1% in GT and +5.21% in Kw), STECF notes that the capacity increase is likely to have been accompanied by a change, most likely an increase in technological efficiency (technological creep), but any such factors have not been considered in the analysis.

The current exploitation rate is reported to be 0.47, which suggests that a reduction in fishing capacity may not be necessary. Nevertheless STECF notes that the Plan includes a proposal to decommission of 8% of the fishing capacity as a precautionary measure.

The Plan proposes a 45-day closure in March-April for vessel less than 30 GT and 45 days in September-October for larger vessels. An additional closure for all vessels of 20 days in the period April-May or June-July is also proposed.

A large number of species are exploited by the Sardinian trawl fisheries. However, selected biological data are available for European hake, Red shrimp, Blue and Red shrimp, Deepwater Rose Shrimp and Red mullet only. Furthermore, production data are presented for only 9 species and for 2006. Data for all the other species listed in Appendix XII of the DCR (now in Appendix VII of the DCF) are absent.

The other fisheries included in the Plan in GSA 19 are not among those listed in Article 19 (1) of Council Regulation (EC) No.1967/2006. In addition, the proposals relating to such fisheries are unclear.

### **GSA 11 – PURSE-SEINE FISHERY**

No Management Plan for the small pelagic fisheries in GSA 11 was submitted by the Italian Authorities.

### **SICILY – TRAWL FISHERIES for vessels <18 m OL**

The Management Plan takes into account the bottom trawl vessels registered in Sicily, with the exception of those over 18 m OL. The management plan proposals for the coastal demersal resources are not in line with the Italian general approach to manage the fisheries by GSA. As a consequence, the data presented are generally for the whole of the Sicilian maritime region (which includes GSA 10, 16 and 19). However, selected biological data are referred to by GSA.

STECF notes that the plan ignores the effect on coastal resources of vessels >18 m OL. Vessels of this size category account for the largest proportion of the catch of demersal resources in the region.

A large number of species are exploited by the Sicilian trawl fisheries. However, selected biological data are presented for European hake, Red shrimp, Deepwater Rose Shrimp and Red mullet only, while production data are presented for only 8 species and for 2006. Data on all the other species listed in Appendix XII of the DCR (now in Appendix VII of the DCF) are not presented.



STECF notes that table A.2.1 shows an increasing mean GT and KW in the Sicilian trawl fleet <18 m OL in the period 2004-2006. This capacity increase, which is likely to have been accompanied by an increase in technical efficiency (technological creep), is not taken into account in the Plan.

Point 6.2, includes the request for a derogation to Article 13 of Council Regulation (EC) No. 1967/2006 to permit a trawl fishery between 3.0 and 0.7 nm from the coast of Sicily, in specified areas in GSA 10 and 19. STECF was not able to provide an opinion on the derogation request, due to an absence of appropriate data and information.

STECF notes that for several decades, a temporary closure has been in force in Sicily and that a subsidized technical closure for a period of 15-20 days to allow routine maintenance work to be undertaken, has also been enforced in recent years. There is no reference to these measures in the management plan. This observation brings into question the predicted effects (between +36% to +38% increase in the available biomass) of the planned measures. Continuation of the measures already in forced is required in order to prevent an increase in fishing effort above recent levels.

STECF suggests that if sufficient supporting data are available, the Sicilian Management Plan for demersal trawl fisheries, should be revised to be more in line with the general Italian approach and the GFCM needs, which implies separate plans for each GSA around Sicily.

### **SICILY – SMALL PELAGIC SPECIES FISHERY BY SURROUNDING NETS**

It is not clear if this Management Plan relates to all vessels, including those over 18 m OL. It also makes no distinction by GSA. The data on the 15 pelagic pair trawl vessels active in GSA 16 are reported to be included among the general data, according to the text in the “Scope” section of the Management Plan. However, inspection of the subsequent text, table and annexes, it is apparent that such data are not presented and it is not clear if the catches from these vessels are included in the reported total catches for small pelagic species. To be consistent with the title of the Management Plan, these data should be clearly reported and separately by métier.

Notwithstanding its title, the Plan provides, among other measures, separate temporary closures for surrounding nets (16 November to 14 March) and for pelagic pair trawls (from October to March).

The production data are provided for 6 species and for 2007, without distinction by GSA. Projections are provided only for anchovy, while some biological data are provided also for sardine.

STECF is of the opinion that a management plan for small pelagic species should be comprehensive and include all the activities listed in Article 6 of Council Regulation (EC) No 2371/2002. Furthermore, the Plan should specify all the fleet components, their production and which management measures by métier are proposed to achieve sustainable exploitation of the target resources.

STECF considers that the Plan should include precise data on the pelagic trawl activities and on the fry fishery for small pelagics carried out in Sicily and referred to in the Sicilian Management Plans. Such activities have implications for the assessment of the species concerned and on the projection presented in the Plan.

### **SICILY - OTHER SYSTEMS**

No management plan is presented for hydraulic dredges or other dredges used for fishing molluscs. Clarification should be given on the extent of any such activities in the GSAs surrounding Sicily.

No management plan is presented for the vessels fishing for fry of small pelagic species, acting under a derogation regime.

No management plan is provided for the purse seine fishing targeting bluefin tuna and registered in Sicily.

### **GSA 16 – TRAWLING FISHING (VESSELS >18 m OL)**

The Management Plan includes fisheries taking place on a spatial scale, which includes the seafloors of a large area of international waters bordering the southern and eastern coast of the Mediterranean. Some of the management measures provided for in this Plan (*inter alia* temporary or permanent restrictions in some zones and control systems) must necessarily be shared on the basis of international agreements negotiated with the other coastal States whose exploitation impacts on the same fish stock. For this reason, this Plan was notified to the General Fisheries Commission for the Mediterranean (GFCM) and European Commission to facilitate the adoption of a Community Management Plan, according to Council Regulation (EC) 1967/2006 and Article 8 (3) of Council Regulation (EC) No. 2371/2002.

STECF acknowledges the proposal for two large protected areas for nurseries of European hake (Biological Protection Zones), the first in GSA 16 (Adventure Bank) and the second one in the offshore area between the eastern southern part of Sicily and Malta (GSA 15). To become effective and to form part of this Management Plan, they should be agreed and implemented by the GFCM. These areas should offer protection to about 45% of the European hake recruitment in GSA 16.

STECF agrees with the opinion in the plan that if fully enforced, the combined effect of all the measures included in the Management Plan would result in a positive effect on the exploited stocks in GSA 16.

As concerns the data considered, STECF notes however, that in relation to trawlers > 18 m OL, the plan does not take into consideration the additional effect on the demersal resources that the activity of vessels <18 m will undoubtedly have on the demersal resources in these areas.

STECF notes that a large number of species are exploited by the Sicilian fisheries. However, selected biological data are available for European hake, Red shrimp, Deepwater Rose Shrimp and Red mullet only, while production data are presented for only 8 species and for 2006. Data on all the other species listed in Appendix XII of the DCR (now in Appendix VII of the DCF) are not presented.

STECF notes that Table 2 shows an increasing number of mean fishing days between 2004 to 2007.

STECF notes that for several decades, a temporary closure has been in force in Sicily and that a subsidized technical closure for a period of 15-20 days to allow routine maintenance work to be undertaken, has also been enforced in recent years. There is no reference to these measures in the management plan. This observation brings into question the predicted effects (between +36% to +38% increase in the available biomass) of the planned measures. Continuation of the measures already in forced is required in order to prevent an increase in fishing effort above recent levels.

### **GSA 19 – PURSE SEINE FISHING FOR SMALL PELAGIC SPECIES**

This management plan applies to fishing vessels registered in the maritime areas of Apulia (Gulf of Taranto and Ionian Sea) and Ionian Calabria authorised for seine fishing. The fleet comprised a total of 7 vessels in 2006 and their activity is low. STECF notes that the Sicilian vessels fishing in the same GSA (19) are not considered.

The Plan reports that no current or past scientific studies are available for this area and, because of this, there has been no scientific evaluation of stocks and hence objectives cannot be quantified. STECF notes that data on small pelagic species in this GSA were collected under the DCR framework but were not reported or used. A decommissioning is proposed as foreseen in the EFF operational programme, but the Plan does not include any quantitative proposal for the proposed decommissioning.

## **GSA 19 – TRAWL FISHERY**

The Plan is referred to the demersal trawlers registered in Apulia (Gulf of Taranto and Ionian Sea) and Ionian Calabria. The vessels over 18 m OL eventually registered in the Eastern coast of Sicily are not included and not mentioned. The fleet is reported to include 227 vessels.

The current exploitation rate, reported to be 0.65, is similar to other GSAs. No explanation is given on the estimation of the current exploitation rate.

Both fishing capacity (vessels +5.1%) and fishing effort (fishing days +15.3%) increased in the period 2004 to 2006. As far as the STECF is aware, the temporary closure is not compulsory in GSA 19, and has therefore only affected some areas or boats in some years and for different periods of time. No information is provided regarding the number of vessels that had complied with the voluntary temporary closure.

The Plan proposes a 45 days closure in August-October and 20 days closure in April-May.

The Plan includes the identification of biological protection zones for nurseries, but nothing is said about the procedure to enforce them and in which time frame.

There are a large number of species exploited by the Ionian trawl fisheries. However, data are available for European hake, Deepwater Rose Shrimp, Norway lobster and Red mullet only, while production data are presented for only 7 species for 2006. Data on all the other species included in Appendix XII of the DCR (now in Appendix VII of the DCF) are not presented.

The other fisheries included in the Plan in GSA 19 are not among those listed in Article 19(1) of Council Regulation (EC) No.1967/2006. In addition, the proposals relating to such fisheries are unclear.

## **GSA 19 - OTHER SYSTEMS**

No management plan is presented for the vessels fishing for fry of small pelagic species, acting under a derogation regime.

### **5.4. Mediterranean Sea and Black Sea: Fishing Protected Areas in the Mediterranean Sea**

#### **Terms of Reference**

Evaluation of scientific and technical reasons underpinning the establishment of some fishing protected areas (under articles 5 to 7 of Council regulation 1967/2006) in the Mediterranean and assess their possible effectiveness on the basis of the information available to enhance exploitation and conservation of main stocks.

#### **STECF comments**

In the absence of supporting documentation this item was withdrawn by the DG MARE STECF focal point.

**5.5. Mediterranean Sea and Black Sea: Management rules and measures for GCFM GSA 6 and GSA 17**

**Terms of Reference**

Management rules and measures for small pelagic fisheries in the GCFM-GSA 17 (the Northern Adriatic) and for demersal trawl fisheries in GSA 6 (hake and deep-water rose shrimp).

**STECF comments**

In the absence of supporting documentation this item was referred to the forthcoming SGMED-09-02 Working Group by the representative from the DG MARE STECF focal point.

**5.6. Atlantic waters and bordering seas: Possible exemptions in application of Art. 11(2) to R(EC) No 1342/2008**

**5.6.1 Evaluation of possible exemptions of groups of vessels from the effort management system under the provisions of Article 11.2 of the ‘Long-term plan for cod stocks’ Regulation (EC) No 1342/2008: Submission to the European Commission by the French, the German, the Polish the Spanish and the UK Authorities.**

**Background**

Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), makes provision for The Council, acting on a Commission proposal and on the basis of the information provided by Member States and the advice of STECF, to exclude certain groups of vessels from the effort regime provided certain conditions are met. Following a request to Member States on 20 February 2009 (reference: D(2009) 01764), the Commission has received submissions from the French, the German, the Polish, the U.K. and the Spanish Authorities containing data and information in support of its request to exempt certain groups of vessels from the effort management regime under the provisions of that Article.

The STECF responses to the Commission’s request to evaluate those submissions were delivered to Member States on 24.03.2009. The Commission indicated that Member States had the possibility to submit additional supporting data and information and that the revised request would be addressed by the STECF at its April 2009 Plenary meeting. Accordingly revised submissions were received from the UK, Germany and Spain.

**Terms of Reference**

Pursuant to Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), Germany has submitted a request to exempt certain groups of vessels from the effort management regime. STECF is requested to review the submission by the German, the Spanish, the Polish and the French Authorities and advise the Commission on the following:

- Does the submission provide appropriate data on cod catches and discards to allow STECF to assess the percentage of cod catches made by each group of vessels concerned ?
- Whether the percentage of cod catches (including those subsequently discarded) as assessed by STECF, is less than or equal to 1,5 % of the total catches (including those subsequently discarded) of each group of vessels concerned.
- STECF is requested to pay particular attention to the following elements:

- Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 applies?
- Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?
- Taking into account time period, spatial coverage and fishing pattern are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.
- Does the submission contain appropriate catch-data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?
- If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.

### **STECF overview comments**

Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), makes provision for The Council, acting on a Commission proposal and on the basis of the information provided by Member States and the advice of STECF, to exclude certain groups of vessels from the effort regime, provided certain conditions are met.

A request from the Commission for Member States to make submissions of groups of vessels for exemption was sent out on 20 February 2009. In the first stage (March 2009) of its evaluation of Member State submissions, STECF made some preliminary general comments relating to the provisions of Article 11 and evaluations of submissions made by Member States. The opportunity during the STECF plenary 20-24 April 2009 for a more detailed discussion of the issues surrounding exemptions, gave rise to STECF identifying a number of additional points for consideration in evaluating MS submissions. These have in some cases led to further requests for additional material to be supplied by member states before a thorough evaluation can be made. The development of a structured approach involving stable criteria is considered essential for the ongoing evaluation of Member State submissions, which will increase with the implementation of Article 13 of the Council Regulation.

STECF considers that catches of cod <1.5% at a fleet or individual vessel level can be achieved through three possible mechanisms:

- (i) Technical decoupling through the application of modifications to the fishing gear that inhibits or reduces cod catches;
- (ii) Spatial and/or seasonal decoupling, where the fishing activity is conducted in areas, at depths, and/or in seasons that are historically not associated with cod distribution and catches; and;
- (iii) Decoupling through cod stock depletion, where historically, cod catches in the area where the fleet/metier operates are likely to have exceeded 1.5% if the cod biomass was at a higher level.

These points may be applied in a hierarchical way for the purpose of evaluating whether proposals for exemption are likely to achieve consistent and long lasting cod catches below 1.5%. Technical solutions offering lasting avoidance of cod would rank highest.

STECF evaluated 5 submissions initially and by the end of the plenary a total of 16 separate fisheries will have been considered. The process has revealed a wide range of data types and quality and with this in mind, the development of a hierarchy could be envisaged as follows:

- Lowest level – list of landings data associated with a list of vessels
- Low-Medium – list of landings data associated with a list of vessels plus representative observer data from discard sampling programme
- Medium-High - list of landings data associated with a list of vessels plus representative observer data from discard sampling programme plus detailed spatial analysis
- High - list of landings data associated with a list of vessels plus representative observer data from discard sampling programme plus analysis that shows technical separation

An important consideration is that while fleets may technically meet the provisions of article 11, if this is achieved principally through point (iii) above could result in an increase in cod catches from current levels due to the removal of effort capping as defined under previous cod recovery plans/effort regime and this may inhibit cod recovery.

Unless spatial or technical reasons for maintaining catch levels at or below 1.5% are demonstrated and/or proposed, and evidence is presented that demonstrates points (i) and (ii) are the primary reason why cod catches are below the threshold levels, caution should be applied when evaluating submissions that are based solely on recent catch and/or landings data. In respect of the distinction between points ii) and iii) there is clearly a need for longer term information on stock distribution and metier behaviour to ascertain the basis of current low cod catches. Applying the precautionary principal, in the absence of technical or spatial/temporal supporting data, it should be assumed that, given the low biomass levels of all cod stocks, decoupling has been achieved largely as a consequence of stock depletion. STECF notes that vessels may no longer be able to avail of the provisions under Article 11 if cod catches increase in response to increases in biomass. Under these circumstances, increasingly exacting monitoring would be required to ensure that in the event of an increase in cod abundance, it was possible to detect when the threshold had been exceeded, thus requiring removal of the exemption.

STECF further notes that it would require additional data to assess the likely impact that article 11 may have on cod catches if a member state expects that the application of the article would result in a transfer of effort into metiers taking advantage of article 11. It is unclear, going forward, what arrangements there will be for vessels adopting measures which reduce cod catches (e.g. effective technical/gear solutions) and wishing to become exempted. To assess the potential impact of such developments, STECF will require an assessment of what the likely increase in effort would be and the cod catches associated with the additional vessels after application of article 11.

The establishment of exempted groups may lead to a number of unintended consequences. Obvious amongst these is disputes and challenge arising from groups failing to acquire exemption. STECF considers that any granting of an exemption should therefore be based on a robust case and supporting data. Most of the applications use similar basic data types. These are not always analysed to the same extent however, so that following a refusal it is likely that repeat submissions with more detailed analysis can be expected.

In the case of exemptions based on spatial decoupling, consideration will need to be given to the potential for increases in effort in localised areas on species other than cod. This attains additional importance if, over the course of time, the exemption attracts additional vessels.

STECF understands that the Regulation allows for the exemptions to apply for so long as the group of vessels are adopting the metier characteristics which reduce cod catch. This means that in principle, spatial and temporal exemptions are possible for groups of vessels, which at other times and places adopt different metier characteristics. Such flexibility will require careful monitoring and control.

STECF notes that there are some fundamental scientific issues to deal with in handling the data which are provided to support exemption requests. Amongst the most important is the utility of the observer data used to establish whether catches are less than 1.5%. Article 11 requires the use of observer data, which in most cases arise from programmes that are designed to supply data for assessment purposes. There is a need to consider the suitability and assumptions about precision where these data are being used for a different purpose, viz. exemptions under article 11 and alternative methods to reduce F under article 13.

Disentangling whether a low current cod catch rate arises from real spatial decoupling or depletion decoupling presents a number of challenges and to avoid repeated requests to MS and shifting of goalposts, it would be helpful to offer guidance on the required nature and timescales of any spatial data.

STECF wishes to draw attention to the variable and often confusing nature of the material supplied by member states. This has led to unnecessary time being spent on establishing what material is available before undertaking the evaluation. STECF therefore recommends that a guidance note or template for submissions should be provided for member states to ensure that relevant material is supplied, in formats which can readily be utilised by evaluators and with adequate description of all the material supplied. The guidance note should also draw attention to the 3 decoupling mechanisms identified, and request MS to provide evidence that i or ii is the case.

STECF notes that this first round of evaluations has generated considerable activity by correspondence and plenary activity, the provisions of Articles 11 and 13 imply that this will increase significantly, particularly at the start of 2010. STECF suggests that DG Mare and the STECF Board discuss how best this can be managed.

STECF also notes that the provisions of Article 11(2) create a situation where it is difficult to predict what the likely changes in mortality on cod will be in the event of exemptions being granted. Firstly, in common with other bycatch Regulations, the amounts of cod removed in compliance depend not only on the cod catch but also on the total catch of all species. High catches of other species in a mixed fishery will lead to larger amounts of cod being removed even if the % bycatch limit is not exceeded. Secondly, the overall amount of cod removed depends on the aggregate effort of the vessels in the exempted metier. For any group with a current bycatch of less than 1.5% cod but restricted in available effort, the removal of the effort restriction could lead to more cod being caught. Furthermore, if the granting of effort exemptions leads to more vessels moving to the exempted metier, there may be potential for further increases in cod catch. This depends on the nature of the metier that is being left in order to join the exempted group – vessels leaving a metier characterised by high cod bycatch will almost certainly catch fewer cod under the exemption, but the balance is not so clear for vessels leaving metiers which already have low to medium cod catches. In order to better predict the effects of granting exemptions, more detailed evaluations would be required than has hitherto been possible.

#### **5.6.2 Exclusion of groups of vessels from the effort management system under the provisions of Article 11.2 of the ‘Long-term plan for cod stocks’ Regulation (EC) No 1342/2008: Submission to the European Commission by the Spanish Authorities.**

##### **Background**

Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), makes provision for The Council, acting on a Commission proposal and on the basis of the information provided by Member States and the advice of STECF, to exclude certain groups of vessels from the effort regime provided certain conditions are met. Following a request to Member

States on 20 February 2009 (reference: D(2009) 01764), the Commission received a submission from the Spanish Authorities containing data and information in support of its request to exempt a certain group of vessels from the effort management regime under the provisions of that Article. The STECF response to the Commission's request to evaluate that submission was delivered to Spain on 24.03.2009. The Commission indicated that Member States had the possibility to submit additional supporting data and information and that the revised request would be addressed by the STECF at its April 2009 Plenary meeting. Accordingly a revised submission was received from Spain.

### **Request to STECF**

Pursuant to Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), France has submitted a request to exempt a group of vessels from the effort management regime. STECF is requested to review the submission by the French Authorities and advise the Commission on the following:

- Does the submission provide appropriate data on cod catches and discards to allow STECF to assess the percentage of cod catches made by each group of vessels concerned?
- Whether the percentage of cod catches (including those subsequently discarded) as assessed by STECF, is less than or equal to 1.5 % of the total catches (including those subsequently discarded) of each group of vessels concerned.

STECF is requested to pay particular attention to the following elements:

- Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?
- Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?
- Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.
- Does the submission contain appropriate catch-data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?
- If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.

### **STECF Observations**

The resubmission by the Spanish Authorities includes a document that starts as a covering letter, continues to describe the data supporting the request, and explicitly responds to the initial STECF response of March 2009. The document is accompanied by three data spreadsheets and a list of vessels.

### **Description of the groups of vessels for which exemption is requested**

With this new submission, Spain applies explicitly for the exemption from the effort regime of three groups of vessels:

- 1) the longliners targeting hake in ICES Division VIa;
- 2) the bottom trawlers targeting hake and anglerfish on the shelf slope between 200 and 1000 m in ICES Div. VIa;
- 3) the gillnetters fishing in ICES Div. VIa.



The submission states that STECF should be able to identify the discrete groups of vessels to which the provisions apply from the information in the landings and discards data provided. These data refer to 72 longliners, 9 bottom trawlers, and 2 gillnetters (Table 4 in their submission). STECF notes, however, that in the effort data spreadsheet provided, the numbers of vessels are slightly different: 67 longliners, 11 bottom trawlers and no gillnetters. No identification is provided for the vessels in the data spreadsheets. Attached to the submission is a list of vessels, listing a vessel ID number (however, this is not their CFR number), vessel name, and fishing activity: 88 bottom trawlers (arrastre de fondo), 69 gillnetters (artes fijas), no longliners, fishing in ICES areas Vb, VI, VII and VIIIabde. The relation between the vessels in the datasets and the vessels in the list is not clear. Therefore, it is unclear to which discrete group(s) of vessels the Spanish request applies.

#### **Data presented supporting the request**

Landings data are provided by trip by species for 2006-2008 (Table 4 in their submission). No cod has been landed by these vessels from ICES Div. VIa in these years. Discard data are only provided for the trawlers. These data are from 15 observed trips conducted over the years 2003-2008 (2 or 3 trips per year, Table 1 in their submission). No cod has been caught/discarded in these trips. The percentage coverage of these observed trips relative to all trawler trips conducted in these years in ICES Div. VIa is not given; only the percentages of observed trips relative to all trips by the same vessels are provided (Table 1 in their submission). However, the percentage coverage relative to all trawler trips can be deduced from the trip data in the landings spreadsheet provided: 2-4%. The temporal coverage of the observed trips (Table 1 in their submission) was similar to the temporal activity pattern of the entire fleet (Figure 1 in their submission). The spatial coverage of the observed trips (Figure 3 in their submission) was contained within the distribution area of the activity of the entire fleet (Figure 2 in their submission). However, in the observed trips fishing took place at slightly deeper depths (Table 3 in their submission) than the overall fishing activity of the fleet (Table 2 in their submission). Since the Spanish submission notes that cod is restricted to shallower habitats, this might have resulted in a downward bias of the cod catches during the observed trips.

The average depth of the fishing operations of the trawler fleet in ICES Div. VIa in 2006-2008 was 357 m (Table 2 of their submission); the Spanish submission states that this results in a spatial separation between the fishing activity and the cod habitats, which are generally at depths shallower than 200 m (references provided in the Spanish submission). One of these references provides evidence that at Shetland Isles cod live shallower than 140 m. The other reference however shows survey data displaying some concentrations of cod between 200 and 500 m on the shelf slope.

#### **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The landings data for 2006-2008 refer to 72 longliners, 9 trawlers, and 2 gillnetters, while the effort data for 2006-2008 refer to 67 longliners, 11 trawlers, and no gillnetters. No identification is provided for the vessels in these datasets. The attached list contains names and ID numbers (not their CFR numbers) of 88 bottom trawlers (arrastre de fondo), 69 gillnetters (artes fijas), no longliners, fishing in ICES areas Vb, VI, VII, and VIIIabde. The relation between the vessels in the datasets and the vessels in the list is not clear. Therefore, it is unclear to which discrete group(s) of vessels the Spanish request applies.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The submission contains spatial and temporal information on the fishing activity conducted by the three vessel/gear groups fishing in ICES Div. VIa. These vessel/gear groups exhibit consistent fishing activity over 3 years within ICES Div. VIa.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

Discards data were not provided for the Spanish longliners and the Spanish gillnetters fishing in ICES Div. VIa.

For the trawlers, 15 trips were observed over the years 2003-2008. In the years 2006-2008, the observed trips represented 2-4% of the total trawler trips in these years. The coverage of the observed trips was temporally and spatially similar to the overall activity of the fleet. The slightly deeper fishing depth during the observed trips might have resulted in a downward bias of the cod catches during the observed trips.

Based on the information presented STECF considers that the observed catches of cod are representative of Spanish bottom trawler catches on the shelf slope in Division VIa for the years 2006-2008.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels ?*

Discards data were not provided for the Spanish longliners and the Spanish gillnetters fishing in ICES Div. VIa. Therefore, STECF cannot evaluate the catches by these fleets in recent years.

The Spanish bottom trawler fleet fishing in ICES Div. VIa landed 0 cod in the years 2006-2008. During 15 trawler trips observed over the years 2003-2008, 0 cod were discarded. The observed trips seem to be representative for the fishing activity of the fleet, except that slightly deeper fishing depths during the observed trips might have resulted in a downward bias of the cod catches during the observed trips. Cod catches by the Spanish trawler fleet operating on the shelf slope between 200 and 1000 m in ICES Division VIa appear to be close to 0%.

Based on the information presented STECF considers that the data are sufficiently representative of Spanish bottom trawler catches on the shelf slope in Division VIa for the years 2006-2008.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

As stated before, in order to advise on the proportion of cod in the catch of a specific group or groups of vessels in future, STECF recommends that the Spanish authorities provide the following information:

Catches (landings and discards) in weight of cod and all other fish, crustaceans and molluscs by all vessels identified as belonging to the group of vessels together with the fishing effort (kW days)

deployed to obtain those catches. Spatial and temporal coverage, sampling intensity (e.g. sampled effort vs. total effort for a given vessel) should be given for onboard observer schemes for the considered group(s) of vessels.

Catch and effort data should be provided by vessel by month of the year and for the most recent three calendar years. Any information on technical characteristics (gear, mesh sizes etc.) and exploitation patterns (e.g. target species) of these vessels will help identifying the grouping of the vessels. Individual vessel data are required in order to assess between-vessel variation within the group. If individual vessel data are not available, then the data should be aggregated over vessels within the group by month of the year. The vessels belonging to each group should be listed together with their Community Fishing Register (CFR) number. Fishing depth data should be provided and information on the depth frequency distribution of the fishing activity (not just average depths). This will enable an evaluation of the extent of separation between the fishing activity and the cod habitat.

In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

#### **Additional Conclusions**

- Discards data were not provided for the Spanish longliners and the Spanish gillnetters fishing in ICES Div. VIa. Therefore, STECF cannot evaluate the catches by these fleets in recent years. As a result, these fleets cannot be considered for exemption from the effort management regime under the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008.

- The Spanish bottom trawler fleet fishing in ICES Div. VIa, consisting of up to 11 vessels during the years 2006-2008, landed 0 cod in the years 2006-2008. During 15 trips observed over the years 2003-2008, 0 cod were discarded. In the years 2006-2008, the observed trips represented 2-4% of the total trawler trips in these years. The coverage of the observed trips was temporally and spatially similar to the overall activity of the fleet. The slightly deeper fishing depth during the observed trips might have resulted in a downward bias of the cod catches during the observed trips.

- The submission provides some arguments that the trawler fishing activity is separated from the cod habitat by depth. However, only average fishing depths are provided; some measure of the range of the depth distribution is required to estimate the frequency of fishing at shallow depths where cod might have been encountered.

#### **5.6.3 Exclusion of groups of vessels from the effort management system under the provisions of Article 11(2) of the ‘Long-term plan for cod stocks’, Council Regulation (EC) No 1342/2008: Submission to the European Commission by the Polish Authorities**

##### **Background**

Article 11(2) of Council Regulation (EC) 1342/2008 of 18 December 2008 (long-term management plan for cod), makes provision for The Council, acting on a Commission proposal and on the basis of the information provided by Member States and the advice of STECF, to exclude certain groups of vessels from the effort regime provided certain conditions are met. Following a request to Member States on 20 February 2009 (reference: D(2009) 01764), the Commission has received a submission from the Polish Authorities containing data and information in support of its request to exempt certain groups of vessels from the effort management regime under the provisions of that Article.

### **Request to STECF**

Pursuant to Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), Poland has submitted a request to exempt certain groups of vessels from the effort management regime. STECF is requested to review the submission by the Polish Authorities and advise the Commission on the following:

- Does the submission provide appropriate data on cod catches and discards to allow STECF to assess the percentage of cod catches made by each group of vessels concerned?
- Whether the percentage of cod catches (including those subsequently discarded) as assessed by STECF, is less than or equal to 1.5 % of the total catches (including those subsequently discarded) of each group of vessels concerned.

STECF is requested to pay particular attention to the following elements:

- Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?
- Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?
- Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission?
- Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?
- If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.

### **STECF Observations**

The submission by the Polish Authorities contains two cover letters seeking the exclusion of two vessels fishing for saithe in the North Sea (presumably effort group TR1) from the effort management system, a table on some vessel characteristics and fishing days spent, and a table showing landings fractions of saithe and cod. No information is given on discards, an exact area specification, the gear used, or control and monitoring measures for these vessels.

### **Data presented**

The vessel characteristics tables for the two vessels concerned only show the name and registration no., the engine power, period of fishing, fishing days and area. In addition, the corresponding kW days for both vessels (and the total over both vessels) is provided. There are no CFR numbers given.

In the landings table, the catching date, amount of saithe in weight and the fishing days are given. The amounts of cod in the landings are given for only one of the vessels.

There are no data presented to document the catch of species other than saithe and cod. The fraction of cod in the landings as a proportion of the total catch of cod and saithe for the single vessel for which these data are available, ranges from 0.13 to 3.48% (average 0.79%). For some records the amounts of cod reported are equal (e.g. 44.2 kg in five cases), which appears suspicious. The time period covered only includes 2008.

### **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The submission does not specify the effort group for the two vessels for which exemption is being sought. STECF is thus not able to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

Although the group of vessels is not described, in 2008 both vessels most likely exhibited similar types of fishing activity (targeted saithe fisheries) within the North Sea.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission?*

The submission does not include appropriate catch data and thus does not permit STECF to assess the catches of cod for the group(s) of vessels.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

The landings data presented by the Polish authorities do not permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for the vessels for which exemption is being sought. In two records, the landings data show fractions of cod larger than 1.5% of the total catch of cod and saithe.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

In order to advise on the proportion of cod in the catch of a specific group or groups of vessels in future, STECF recommends that Polish authorities provide the following information:

Catches (landings and discards) in weight of cod and all other fish, crustaceans and molluscs by all vessels identified as belonging to the group(s) of vessels together with the fishing effort (kW days) deployed to obtain those catches. Spatial and temporal coverage, sampling intensity (e.g. sampled effort vs. total effort for a given vessel) should be given for onboard observer schemes for the considered group(s) of vessels.

Catch and effort data should be provided by vessel by month of the year and for the three most recent calendar years. Any information on technical characteristics (gear, mesh sizes etc.) and exploitation patterns (e.g. target species) of these vessels will help identifying the grouping of the vessels. Individual vessel data are required in order to assess between-vessel variation within the group. If individual vessel data are not available, then the data should be aggregated over vessels within the group by month of the year. The vessels belonging to each group should be listed together with their Community Fishing Register (CFR) number.

In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

## **STECF Conclusions**

- STECF considers that the submission does not present sufficient data to consider the exclusion of vessels listed in Annexes 1 and 2 from the effort management system under the provisions of Article 11.2 of the 'Long-term plan for cod stocks' Regulation (EC) No 1342/2008.
- STECF also consider that MS should refer to point 5 above for which information should be provided to allow an assessment whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission.

### **5.6.4 Exclusion of groups of vessels from the effort management system under the provisions of Article 11.2 of the 'Long-term plan for cod stocks' Regulation (EC) No 1342/2008: Submission to the European Commission by the French Authorities.**

#### **Background**

Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), makes provision for The Council, acting on a Commission proposal and on the basis of the information provided by Member States and the advice of STECF, to exclude certain groups of vessels from the effort regime provided certain conditions are met. Following a request to Member States on 20 February 2009 (reference: D(2009) 01764), the Commission has received a submission from the French Authorities containing data and information in support of its request to exempt a certain group of vessels from the effort management regime under the provisions of that Article.

#### **Request to STECF**

Pursuant to Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), France has submitted a request to exempt a group of vessels from the effort management regime. STECF is requested to review the submission by the French Authorities and advise the Commission on the following:

- Does the submission provide appropriate data on cod catches and discards to allow STECF to assess the percentage of cod catches made by each group of vessels concerned?
- Whether the percentage of cod catches (including those subsequently discarded) as assessed by STECF, is less than or equal to 1.5 % of the total catches (including those subsequently discarded) of each group of vessels concerned.

STECF is requested to pay particular attention to the following elements:

- Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?
- Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?
- Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.
- Does the submission contain appropriate catch-data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?

· If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.

### **STECF Observations**

The submission by the French Authorities includes a short covering letter dated 27th February accompanied by a list of vessels that the French Authorities state to have catches (actually landings) of cod <1.5% by weight. A further note from 24th March appended with reports of two observer sampling trips and a spreadsheet containing landings data elaborates on the original submission. The submission seeks exemption for a group of bottom trawlers, mainly targeting saithe (assumed to be in the TR1 effort group), but mentions no specific fishing location. The submission does not include any effort data.

The note also outlines the French control and monitoring measures.

### **Data presented**

The French submission (24th March) is introduced with an analysis of catches (actually landings) from the North Sea saithe fishery in general. A table is presented (Table 1) containing the results of an analysis of French logbook data (allocating fishing trips to metier on the basis of gear and catch composition), conducted by IFREMER for SGRST-08-03 (Working Group on Fishing Effort Regime). It shows that the percentage of cod in the 'Bottom Trawls in the North Sea Saithe' metier is <1.5% in each of the years 2000-2007. The table also presents percentages of cod in other metiers, including 'Bottom Trawls in the West of Scotland Saithe', but this metier is not discussed in the text of the submission.

### **Description of group of vessels**

The next part of the document describes the group of vessels (ten in total) for which the exemption request has been submitted. The list originally submitted on 27th February contained three additional vessels which are actually pelagic vessels fishing with gear not covered by Annex 1 of Regulation (EC) No 1342/2008 and are therefore not included in the exemption request.

Although the group of ten vessels is initially described as targeting saithe, the more detailed description suggests that a number of them have other target species including deepwater species (2 vessels) and blue whiting (1). Information is given on vessel size (ranging from 44 to 90 m), power rating (1472-2944 kW) and age, but not the mesh size they are using. No data are presented to illustrate the spatial distribution of fishing activity and the description implies that the vessels are fishing across a wide geographical area including the northern North Sea and the West of Scotland. It is not clear whether the exemption is requested for all areas or only for the North Sea, which is the focus of the general introductory section of the document.

### **Landings data by vessel**

The spreadsheet (Annex 1 - CAPTURES cabillaud 2004 à 2008.xls) provides annual landings by weight (cod and total) for those vessels listed in the exemption request, by year (2004-2008) and ICES Division (IIa, IIIa, IVa-c, VIId and Other unspecified areas). In the majority of cases, annual % of cod is less than 1.5% of the total landings. There are three instances (vessel/year/area combination) during 2005 and 2006 of annual landings of cod exceeding 1.5% of the total.

### **Observer data**

Reports on two observer trips were also submitted (Annex 2). These trips were conducted on two different vessels (both OTB 110) in 2004. Both vessels are not included in the group of vessels applying for exemption from the effort regime and both have actually left the fleet.

Data on species composition of the catch and landings by weight and number from the two observer trips are presented in summary pie charts and more detailed bar-charts. The catch composition of the vessels is somewhat different (with a significant proportion of deep-sea redfish for one of the vessels), but in terms of landings, both vessels record about 90% saithe by weight. Actual values of % cod in the catch are not provided, although it appears from the Figures contained in the documents that on both trips the catch of cod was much less than 1.5% by weight. The submission describes the métier of these two sampled vessels as being ‘identical in all respects to those vessels listed in the current exemption application’. No information on fishing location on these two trips is provided in the report.

### **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The data and information presented relates to a group of vessels that are individually listed (name and CFR number) along with some vessel characteristics (although there is no information on mesh size). The description implies that the vessels do not have the same target species, and additionally the effort group of the vessels is not specified. STECF therefore concludes that the data and information submitted does not permit the identification of a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The submission does not contain any spatial and temporal information on the fishing activity conducted by the listed vessels other than annual landings (total and cod) by ICES Division (IIa, IIa, IVa-c, VIIId and other areas). Thus, STECF is unable to evaluate whether the vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation areas.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The discard information provided in the submission is from only two trips in 2004 carried out onboard vessels which are not part of the identified group of vessels (and actually left the fleet in 2005). Furthermore, no information is provided on fishing location of the sampled vessels or mesh size of the vessels for which exemption is sought. STECF is therefore unable to conclude whether the observed catch data are likely to be representative of the vessels listed in the French submission.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

The submission contains only landings data for the group of vessels identified in the submission. There are 3 instances (during 2005 and 2006) of listed vessels reporting total annual landings with greater than 1.5% cod. STECF concludes that the landings data are not sufficient to determine whether the catch of cod is less than or equal to 1.5% of the total catch for these vessels.



*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

In order to advise on the proportion of cod in the catch of a specific group or groups of vessels in future, STECF recommends that the French authorities provide the following information:

Catches (landings and discards) in weight of cod and all other fish, crustaceans and molluscs by all vessels identified as belonging to the group of vessels together with the fishing effort (kW days) deployed to obtain those catches. Spatial and temporal coverage, sampling intensity (e.g. sampled effort vs. total effort for a given vessel) should be given for onboard observer schemes for the considered group(s) of vessels.

Catch and effort data should be provided by vessel by month of the year and for the most recent three calendar years. Any information on technical characteristics (gear, mesh sizes etc.) and exploitation patterns (e.g. target species) of these vessels will help identifying the grouping of the vessels. Individual vessel data are required in order to assess between-vessel variation within the group. If individual vessel data are not available, then the data should be aggregated over vessels within the group by month of the year. The vessels belonging to each group should be listed together with their Community Fishing Register (CFR) number.

In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

### **Additional Conclusions**

STECF considers that there is insufficient data to conclude whether the vessels identified are actually a discrete group of vessels; therefore no exclusion should be considered to the vessels from the effort management system under the provisions of Article 11.2 of the 'Long-term plan for cod stocks' Regulation (EC) No 1342/2008. Furthermore, the submission does not include enough information to allow an assessment of whether the catch of cod is less than or equal to 1.5% of the total for the listed vessels.

STECF suggests that MS should refer to point 5 above for the information that should be provided to allow an assessment of whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission.

### **5.6.5 Exclusion of groups of vessels from the effort management system under the provisions of Article 11.2 of the 'Long-term plan for cod stocks' Regulation (EC) No 1342/2008: Resubmission to the European Commission by the German Authorities.**

#### **Background**

Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), makes provision for The Council, acting on a Commission proposal and on the basis of the information provided by Member States and the advice of STECF, to exclude certain groups of vessels from the effort regime provided certain conditions are met. Following a request to Member States on 18 February 2009 (reference: D(2009) 01645), the Commission received a submission from the German Authorities containing data and information in support of its request to exempt a group of beam trawl flatfish vessels from the effort management regime under the provisions of that Article. An initial evaluation by STECF requested additional information from the German authorities for consideration at the STECF PLEN 09-01. In its resubmission, Germany also

included requests for two more groups of vessels to be exempted i) vessels in the saithe ‘high seas’ fishery and ii) vessels in the saithe ‘cutter’ fleet. The STECF response is divided into these three components.

### **Request to STECF**

Pursuant to Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), Germany submitted a request to exempt a group of flatfish vessels from the effort management regime and has subsequently requested exemption for two more groups. STECF is requested to review the submissions by the German Authorities and advise the Commission on the following:

- Do the submissions provide appropriate data on cod catches and discards to allow STECF to assess the percentage of cod catches made by each group of vessels concerned?
- Whether the percentage of cod catches (including those subsequently discarded) as assessed by STECF, is less than or equal to 1.5 % of the total catches (including those subsequently discarded) of each group of vessels concerned.
- STECF is requested to pay particular attention to the following elements:
- Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?
- Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?
- Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States’ submission.
- Does the submission contain appropriate catch-data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?
- If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.

### **Beam Trawl (BT2) flatfish vessels**

#### **STECF Observations**

The original submission by the German Authorities included a covering letter and an accompanying list of vessels together with a short note showing results of observer trips. The revised submission seeks exemption for a larger group of beam trawl vessels using 80-120mm mesh (BT2) and is accompanied by an increased amount of observer data. Attempts were made by Germany to address some of the questions raised in the STECF response to the original submission.

#### **Data presented**

##### **a) Effort and landings**

The data provided on the group of vessels in the original submission, consisted of two tables, one providing landings information for the years 2006 to 2008 and one providing average effort in the reference period 2004 to 2006. There was some discrepancy between the vessels listed in the two tables but this has now been addressed. Most of the 63 vessels had power ratings of 221kW or less, one vessel exceeds 1000kW. Additional landings data was provided on a further 39 vessels – these exhibit similar power ratings to the first group.

The original group was assembled on the basis of those vessels recording the use of the BT2 gear in the reference period, although in general, the group did not make extensive use of this gear. The text table below provides a summary of the numbers of vessels at sea in the coastal areas of ICES Div. IVb for different amounts of days: Almost 75% of the vessels used the gear for 5 days or less and only 5 vessels used the gear for more than 20 days.

Average days at sea 2004 to 2006      Number of vessels

<= 1	24
>1 <= 5	26
>5 <= 10	9
>10	8

The effort used by the additional vessels when fishing beam trawl for flatfish showed a similar picture with most boats fishing below 5 days with this gear.

The original German submission indicated that the vessels mainly conduct brown shrimp fisheries. Additional information was provided on the shrimp fishing catch composition which involves the use of smaller mesh beam trawls (<20mm) – these are not regulated in the effort management system. However, it was difficult to establish whether this was the only other gear used by this group.

The landings information for these vessels (original and additional) when using BT2 gear in the more recent period (2006-2008) illustrates the low usage of this gear in recent times. A number of the vessels made no landings at all with this gear. The boats making landings with this gear sometimes recorded a landing of cod but not in all years and not by all vessels; only 21 vessels landed cod using this gear at some point in the period 2004-2006. In all cases, the percentage cod in the landing never exceeded 1.2 % and was mostly below 0.5%. Catch information including discards was not provided for these vessels.

#### **b) Observer data**

Observations of catches on board flatfish vessels using the 80-120mmm beam trawl gear in ICES IVb were carried out by scientists from the Johann Heinrich von Thünen-Institut. Table 1 in the submission covering letter indicates a total of 12 trips between 2006 and 2008 with most (5) occurring in the last year. A total of 5 boats were sampled none of which are vessels included in the German submission for exemption and it is unclear the extent to which the sampled boats are representative of the boats listed for exemption. Data are presented for each year and include detailed tabular material of the species composition by weight in the catch, discard quantities and summary pie charts of the main species caught (plaice, dab, grey gurnard, sole and whiting). In each year, total cod catches observed on the sampled vessels were small (<334kg) and did not exceed 1.22% of the total overall catch. The lowest value, 0.28%, was obtained in 2007.

A summary of observed cod bycatch percentages in the shrimp fishery (prosecuted by these vessels when not fishing for flatfish) was also provided suggesting that cod catches are very low (average 0.06%)

Observed cod catches may be influenced by seasonal variations in fishing pattern relative to the distribution of the cod stock and by the seasonal observer coverage. Information is given on the seasonal timing of the observed trips and on the significance of the sampled vessels in terms of the amount of effort expended by them (0.9-2.9% of the effort covered by sampling), but not on their contribution to the total overall catches by the group of vessels as a whole.

## **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The data and information presented relates to a group of vessels that are individually listed and for which relevant identifiers and vessel characteristics are provided. STECF therefore concludes that (subject to a small clarification – see under data presented above) the data and information submitted permits the identification of a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 applies.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The information presented relates to a group of vessels which used the BT2 gear during the reference period 2004-2006. However, the majority of vessels only used this gear for limited amounts of time, and in the recent period (2006-2008), some did not make any landings using this gear. The submission suggests they mainly fish for brown shrimps and new information on catch composition is provided. However, detailed information was not provided on the activity patterns or gear use by these vessels when not using BT2 gear.

No information was given on the seasonality in the use of the BT2 gear or on the detailed spatial distribution of activity although the submissions refer to activity limited to the coastal parts of IVb. It appears that the group mainly comprises vessels dependent on brown shrimp which occasionally operate larger mesh beam trawls targeting flatfish. This implies they operate in an unregulated gear category for much of the time and use regulated gear only to a limited extent.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The submission does not include sufficient information to permit STECF to assess whether the observed catches of cod from observer trips on vessels identified as belonging to the listed BT2 80-120mm can be considered representative of the catches of all of the vessels listed for exemption. The 12 observed trips were made on vessels not belonging to the exemption list. Furthermore, without details of location and vessel characteristics it is difficult to say how representative this is.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

STECF considers that the catch data collected and presented from the on-board observer scheme could potentially be appropriate for evaluating whether the catch of cod is less than 1.5%. However, the shortages of information on the spatial activity and the difficulty with determining if sampling was representative of the group as a whole preclude STECF being able to evaluate whether the catch of cod is equal to or less than 1.5% of the total catch.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the*

*submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

STECF notes that the German authorities have provided helpful additional information in support of their submission. A major remaining issue is that the observed vessels do not appear to be contained within the list of vessels for which exemption is sought. In addition to the observer catch data provided, details of individual vessel characteristics and locations of each sampling should also be supplied. Spatial and temporal coverage and the precision of the estimation of the cod proportions in the catches should be given for onboard observer schemes for the considered group(s) of vessels. In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

The submission from the German authorities makes general comments about the nature of the controls and sampling that the group of vessels are subjected to. Emphasis is placed on the DCF as a means of providing observer coverage. The number of planned sampling trips is 1-2 per quarter.

### **High Seas (TR1) saithe vessels**

#### **STECF Observations**

This represents a new submission from Germany. The submission includes two covering letters and a series of four files of supporting information and data. The small group of vessels involved are of larger size (>60m) and are characterised by fishing for saithe in more offshore areas of IVa and IIa using 120mm mesh trawls during the first quarter of the year.

#### **Data presented**

##### **a) Effort and landings**

Summary information on effort is provided for the four vessels listed in the covering document. Unfortunately there is no timescale information provided, so the significance of the relatively low effort figures cannot be judged.

Two additional files provide further information on the vessels and species caught, although one of these contains information on an additional vessel – it is not clear whether this should also have been included in the list of exempted boats or not. Landings information included in this file for individual vessels show very low cod bycatches. The overall summary table has some incorrect cell referencing and the numbers are incorrect.

##### **b) Observer data**

Observer data, collected and processed by the Johann Heinrich von Thünen-Institute under the DCF data collection process, are provided for 3 sampling trips (one per year for 2006-2008) on vessels considered to be typical of the group although vessels details are not provided and it can only be assumed that these boats are included in the list for exemption. The effort expended while under observation represents a high proportion 32-48% of the effort expended by the listed group. Sample results for 2006 to 2008 suggest that cod catches are low (0.002 -0.22% of total catch and that saithe dominates the catches (87-94%).

#### **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The data and information presented relates to a group of vessels that are individually listed and for which relevant identifiers and vessel characteristics are provided. STECF therefore concludes that (subject to a small clarification – see under data presented above) the data and information submitted permits the identification of a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 applies.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The information presented relates to a group of vessels which used the TR1 gear, mainly in the first quarter. Detailed spatial distribution of activity is not provided. Data suggest low cod catches but the vessels operate in areas adjacent to cod grounds and the extent to which catch composition can alter is unknown.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The submission does not include sufficient information to permit STECF to assess whether the observed catches of cod from observer trips on vessels identified as belonging to the listed TR1 120mm can be considered representative of the catches of all of the vessels listed for exemption. The 3 observed trips represent a relatively high proportion of effort expended by the group but without details of timing, location and vessel characteristics it is difficult to say how representative this is.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels ?*

STECF considers that the catch data collected and presented from the on-board observer scheme could potentially be appropriate for evaluating whether the catch of cod is less than 1.5%. However, the shortages of information on the spatial activity and the difficulty with determining if sampling was representative of the group as a whole preclude STECF being able to evaluate whether the catch of cod is equal to or less than 1.5% of the total catch.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

In order to complete its advice on the proportion of cod in the catch of this group of vessels, STECF recommends that the German authorities provide additional information on the observer trips carried out:

In addition to the observer catch data provided, information on details of individual vessel characteristics, timings and locations of each sampling should also be supplied. Spatial and temporal coverage, and the precision of the estimation of the cod proportions in the catches should be given for onboard observer schemes for the considered group(s) of vessels. In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is

required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

The submission from the German authorities makes general comments about the nature of the controls and sampling that the group of vessels are subjected to. Emphasis is placed on the DCF as a means of providing observer coverage. STECF, however, recommends that a more detailed outline of these procedures should be provided in particular focussing on plans for observer sampling of catch by this group of vessels so as to ascertain whether catches of cod continue to be below or equal to 1.5% of total catch.

### **Cutter fleet (TR1) saithe vessels**

#### **STECF Observations**

This represents a new submission from Germany. The submission includes various covering letters, a document providing information on observer sampling and a file with details of landings composition. The number of 'cutter' vessels involved is low and these are characterised by fishing for saithe in more inshore areas using TR1 100mm gear. The request seeks exemption in various months of the year (April and June to November).

#### **Data presented**

##### **a) Effort and landings**

Summary information on effort is provided for the six vessels listed in the covering document. Annual effort information is presented for each vessel for 2006-2008. The amounts of effort spent varied considerably between the six vessels. Spatial information is not provided.

Landings information is provided for the six vessels. The combined data across vessels and years suggests that the cod bycatch is just below 1.5% overall. Data are also provided on a monthly basis and by vessel for each year and combined across 2006-2008 - when examined in this disaggregated way, cod bycatch was often above 1.5% (landings of cod/total landings) in some months and some vessels. There was no clear pattern to the bycatch percentage. In a number of cases the bycatch % exceeded 1.5 % in the months April and June to November.

##### **b) Observer data**

Observer data was presented for three of the six vessels in the submitted list. The table of observer data in the submission indicates that 4-6 samples were taken per year, but there was no indication of seasonal coverage, particularly in relation to the proposed periods of exemptions. Details of species composition in the catches were presented for each year and the % of cod in the catches was always below 1.5%. Catches by the observed vessels was dominated by saithe.

Spatial information was only provided at the ICES Division level and it is not clear how representative the observed catches are of the whole area over which these vessels operate. Since the vessels operate in areas adjacent to cod grounds with gears capable of catching cod, further information is required on the scope for consistent decoupling.

#### **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The data and information presented relates to a group of vessels that are individually listed and for which relevant identifiers and vessel characteristics are provided. STECF therefore concludes that the data and information submitted permits the identification of a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 applies.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The information presented relates to a group of vessels which use 100mm TR1 gear, but detailed spatial distribution of activity is not provided. Data suggest low cod catches but the vessels operate in areas adjacent to cod grounds and the extent to which catch composition can alter is unknown.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The submission does not include sufficient information to permit STECF to assess whether the observed catches of cod from observer trips on vessels identified as belonging to the listed TR1 100mm can be considered representative of the catches of all of the vessels listed for exemption. Information was not presented on the observed effort as a proportion of effort expended by the group and without details of timing, location and vessel characteristics it is difficult to say how representative this is.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

STECF considers that the catch data collected and presented from the on-board observer scheme could potentially be appropriate for evaluating whether the catch of cod is less than 1.5%. However, the shortages of information on the spatial activity and the difficulty with determining if sampling was representative of the group as a whole preclude STECF being able to evaluate whether the catch of cod is equal to or less than 1.5% of the total catch.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

In order to complete its advice on the proportion of cod in the catch of this group of vessels, STECF recommends that the German authorities provide additional information on the observer trips carried out:

In addition to the observer catch data provided, information on the discarded quantities observed would be helpful. Details of individual vessel characteristics, timings and locations of each sampling should also be supplied. Spatial and temporal coverage, and the precision of the estimation of the cod proportions in the catches should be given for onboard observer schemes for the considered group(s) of vessels. In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.



The submission from the German authorities makes general comments about the nature of the controls and sampling that the group of vessels are subjected to. Emphasis is placed on the DCF as a means of providing observer coverage. STECF, however, recommends that a more detailed outline of these procedures should be provided in particular focussing on plans for observer sampling of catch by this group of vessels so as to ascertain whether catches of cod continue to be below or equal to 1.5% of total catch.

### **Overall Conclusions on the German submissions**

STECF notes that in respect of the BT2 flatfish gear and High Seas saithe fisheries submission, the German authorities have provided additional helpful information. For the new submission concerning cutter fleet saithe fisheries, STECF considers that the submissions do not present sufficient data to make a full evaluation that could lead to the exclusion of vessels listed in Annexes 1 and 2 from the effort management system under the provisions of Article 11.2 of the 'Long-term plan for cod stocks' Regulation (EC) No 1342/2008.

There is evidence in observer trips of cod catches less than 1.5%, however, taking into account the overarching considerations drawn up by STECF to guide the evaluation process, it does not appear that the German submissions meet the criteria for considering exemption.

While each of the submissions identifies a specific group of vessels which appear to operate as a metier, none of these operates using a technical solution known to minimise the capture of cod.

Furthermore, there is no evidence presented of a consistent spatial decoupling arising from the fishery operating in an area in which cod have been demonstrated to be absent over a long period. It seems likely that current low cod bycatches arise from the presently depleted abundance of cod. Under these circumstances, any exemption would require a more comprehensive analysis of historic cod distribution and of the distribution of the vessel activity seeking exemption. In addition, proposals for exemptions should indicate how the vessels will be restricted from operating in areas currently occupied by cod. Detailed proposals for future sampling adequate to detect an increase in the proportion of cod in catches are also required.

STECF considers that MS should refer to point 5 of the evaluations for further requirements.

### **5.6.6 Exclusion of groups of vessels from the effort management system under the provisions of Article 11.2 of the 'Long-term plan for cod stocks' Regulation (EC) No 1342/2008: Submission to the European Commission by the UK Authorities.**

#### **Background**

Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), makes provision for The Council, acting on a Commission proposal and on the basis of the information provided by Member States and the advice of STECF, to exclude certain groups of vessels from the effort regime provided certain conditions are met. Following a request to Member States on 20 February 2009 (reference: D(2009) 01764), the Commission received a submission from the UK Authorities containing data and information in support of its request to exempt certain groups of vessels from the effort management regime under the provisions of that Article. Following evaluation by STECF, who considered that there was insufficient data to grant exclusion, the UK authorities were asked to submit additional data. This additional information has been provided to STECF for consideration at the STECF PLEN 09-01. The original submission consisted of a list of vessels and associated logbook data (landings and effort), which demonstrated that cod

landings were below 0.5%. The latest submission does identify specific fisheries/metiers. The UK authorities request that 5 fisheries be considered for exemption i) 68 Vessels operating in the Minch (West of Scotland) in a nephrop fishery (TR2); ii) 8 Vessels operating in the Eastern Firth of Clyde (West of Scotland) in a nephrop fishery (TR2); iii) 22 Vessels operating in a Queen Scallop fishery in the Irish Sea (TR2); iv) 8 vessels operating in a nephrop fishery in the Eastern Irish Sea (TR2) and v) 14 vessels operating in a flatfish fishery in the Eastern English Channel – ICES Area VIIId (BT2)

### **Request to STECF**

Pursuant to Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 (long-term management plan for cod), the UK has submitted a request to exempt certain groups of vessels from the effort management regime. STECF is requested to review the submission by the UK Authorities and advise the Commission on the following:

- Does the submission provide appropriate data on cod catches and discards to allow STECF to assess the percentage of cod catches made by each group of vessels concerned?
- Whether the percentage of cod catches (including those subsequently discarded) as assessed by STECF, is less than or equal to 1,5 % of the total catches (including those subsequently discarded) of each group of vessels concerned.
- STECF is requested to pay particular attention to the following elements:
- Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?
- Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?
- Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.
- Does the submission contain appropriate catch-data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?
- If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.

### **STECF Observations**

The submission by the UK authorities includes a covering letter dated 8 April outlining the additional data requested by STECF following the initial STECF response of March 2009. In the original submission, the UK authorities sought exemption for a broad range of vessels belonging to the gear categories defined under the regulation (TR1 and TR2) and operating in a particular 'sea area' (West of Scotland, Irish Sea, North Sea) for the baseline years 2004-2006, for those vessels that "landed less than 0.5% cod in both 2007 and 2008", as "a precautionary proxy for the fulfilment of the 1.5% threshold". No catch data (landings+discards) was made available. The latest submission differs in that discrete fisheries are identified and in some cases, catch data are provided. The UK authorities seek exemption for five fisheries.

With this new submission, UK applies explicitly for the exemption from the effort regime of three groups of vessels:

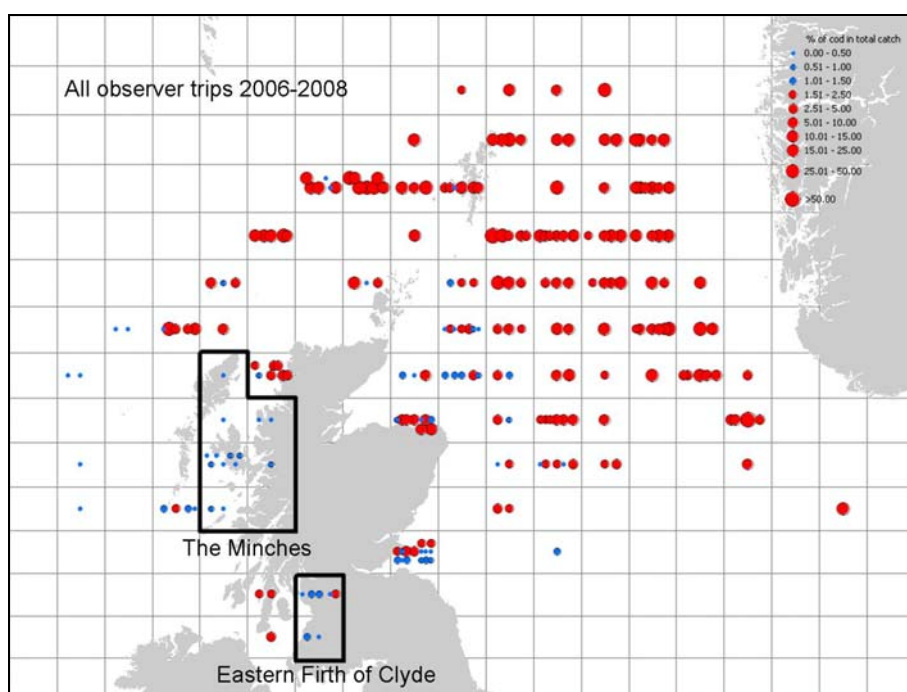
- i) 68 Vessels operating in the Minch (West of Scotland) in a *Nephrops* fishery (TR2);
- ii) 8 Vessels operating in the Eastern Firth of Clyde (West of Scotland) in a *Nephrops* fishery (TR2);

- iii) 22 Vessels operating in a Queen Scallop fishery in the Irish Sea (TR2);
- iv) 8 vessels operating in a *Nephrops* fishery in the Eastern Irish Sea (TR2) and
- v) 14 vessels operating in a flatfish fishery in the Eastern English Channel – ICES Area VIIId (BT2)

### Fishery 1 – Minch *Nephrops* Fishery

#### Data presented

The UK Scotland authorities present spatial data obtained from observer trips between 2006-2008. These are separated into trips where the percentage of cod in the observed catches was either above 1.5% or at or below 1.5%. The spatial plots show that in most sampled areas, the cod catch exceeds the 1.5% threshold. However, two areas in ICES Division VIa have been identified where all, or the majority of samples, indicate cod catch levels  $\leq 1.5\%$ . The two areas cover respectively 7 ICES statistical rectangles in the Minch and 2 in the Eastern Firth of Clyde (Fishery 2 – see below). Both these areas are identified as *Nephrops* grounds and are contained within the ICES *Nephrops* Functional Units 11&12 (Minch) and 13 (Eastern Clyde) (Figure 5.6.1).



**Figure 5.6.1 Location of observer trips from the UK (Scotland) observer programme during the reference years. Red dots signify trips where the cod percentage was  $>1.5\%$ ; blue dots are marking cod fractions in the catch  $\leq 1.5\%$ . The two polygons identify the ‘management areas’.**

On this basis, the UK authorities seek exemption for 68 vessels engaged in the *Nephrops* fishery operating within a spatially defined area referred to as ‘The Minches’. In addition, data from the West Coast of Scotland Q1 and Q3 IBTS surveys from 2006 to 2008 are also provided which show that cod catches within the Minch are low.

A list of candidate vessels is provided. These have been identified on the basis that they have spent in excess of 75% of their time within the defined area and, based on reported landings, that they are classified as *Nephrops* vessels and landed less than 0.9% cod in successive years over the reference period. Details of the 68 vessels are provided, including CFR and national identification numbers, the time spent in the proposed ‘management area’ and the percentage of cod in their monthly landings over the reference period. 80% of the vessels expended more than 95% of their effort in

the proposed area. Monthly landings of cod, *Nephrops* and all other species for the proposed vessels are provided as is monthly effort data (kW days fished). No data is presented on physical characteristics of the vessels so it is not possible to determine whether these are subject to mandatory VMS (vessels >15m).

Observer data from the trips undertaken inside the management areas are presented. A statistical analysis presented shows that from the 11 observer trips in the management area between 2006 and 2008 estimate the mean cod catch rate to be 0.35%, with an upper one-sided 95% confidence limit of 0.55%. The mean cod catch rate was significantly below 1.5% ( $p = 0.0001$ ). In addition, the analysis demonstrates the number of trips that would be required to determine if cod percentages are significantly below 1.5% if the mean rate increases over time. For example, if the true cod catch is 0.75%, then 17 trips are required to demonstrate that the cod catches are below 1.5%.

true cod catch rate	number of trips	true cod catch rate	number of trips
0.35	7	0.85	22
0.40	7	0.90	27
0.45	8	0.95	32
0.50	9	1.00	39
0.55	10	1.05	49
0.60	11	1.10	62
0.65	13	1.15	83
0.70	14	1.20	114
0.75	17	1.25	166
0.80	19	1.30	264

**Table 5.6.1. Number of trips required to determine that cod catches are below 1.5% relative to the true catch rate.**

The UK (Scotland) authorities note that the above analysis will be used as the basis of a monitoring programme and if cod catches increase, then observer deployment will be adjusted. It is proposed that the outcome of this analysis will be used as the basis for reviewing the proposed arrangements.

#### **STECF Comments and Observations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The data and information presented relates to a group of vessels that are individually listed and for which relevant identifiers and vessel characteristics are provided. STECF therefore concludes that the data and information submitted permits the identification of a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply. STECF notes that the UK authorities are seeking exemption for a group of vessels that spend the majority of their time within the spatially defined area and that the exemption would only apply to the defined area.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The information presented relates to a group of vessels, which used the TR2 gear during the reference period 2006-2008. The effort data and landings composition data for each of the vessels demonstrates that the activity of the vessels within the defined area is stable and that most (>90% for 80% of the vessels) is spent within the proposed area.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The observed vessels are included in the list of vessels seeking exemption and observer data is available for all quarters. However, STECF notes that the level of observer coverage is low in comparison to other observer programmes. Expressed as a percentage, 0.12; 0.07 and 0.09% of total effort was observed for 2006, 2007 and 2008 respectively.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

STECF considers that the catch data collected and presented from the on-board observer scheme is potentially appropriate for evaluating whether the catch of cod is less than 1.5% for the reference period. However, STECF reiterates that the level of observer coverage is low and the submission from the UK (Scotland) authorities would benefit if data from the full time series of observer data was included in the statistical analysis. Efforts should be made to increase the level of coverage.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

#### **Additional Comments**

STECF welcomes the material supplied in this section of the revised UK submission. However the overarching discussions at the STECF plenary concerning decoupling implies that some additional points need to be addressed.

Given the severely depleted status of VIa cod, STECF is unable to determine whether the fishery is spatially decoupled from cod or that this is an artefact of the stock status. STECF notes that the cod stock in VIa is the most severely depleted of all the cod stocks in the NE Atlantic area. STECF considers that in order to assess if this fishery is spatially decoupled then it would be helpful to have available an expanded time series of cod landings from the associated and adjacent ICES statistical rectangles to determine if cod landings were not reported from the proposed area when cod abundance was higher. In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

STECF considers that the submission would be enhanced if the full time series of observer data was included in the statistical analysis given the general paucity of data from the reference period.

STECF notes that the power analysis presented is a welcome addition to the submission and the proposed use of this to inform the level of sampling coverage gives a robust methodology to

underpin sampling coverage. STECF also notes the proposal that enhanced coverage will be undertaken and that this data will be used to review management provisions if cod catches increase.

## **Fishery 2 - Firth of Clyde *Nephrops* fishery**

### **Data presented**

The data presented follows the structure submitted for the Minch *Nephrops* fishery above.

A list of 8 candidate vessels is provided. These have been identified on the basis that they have spent in excess of 75% of their time within a defined area and, based on reported landings, that they are classified as *Nephrops* vessels and landed less than 0.9% cod in successive years over the reference period. Details of the 8 vessels are provided, including CFR and national identification numbers, the time spent in the proposed 'management area' and the percentage of cod in their monthly landings over the reference period. 63% of the vessels expended more than 95% of their effort in the proposed area. Monthly landings of cod, *Nephrops* and all other species for the proposed vessels are provided as is monthly effort data (kW days fished). No data is presented on physical characteristics of the vessels so it is not possible to determine whether these are subject to mandatory VMS (vessels >15m).

Observer data from 7 observer trips in the reference period is provided. Due to the paucity of the data no statistical analysis is presented. STECF notes that the cod contribution to overall catches is low (mean 0.92%), and one observation exceeds the 1.5% threshold (1.82%).

### **STECF Comments and Observations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The data and information presented relates to a group of vessels that are individually listed and for which relevant identifiers and vessel characteristics are provided. STECF therefore concludes that the data and information submitted permits the identification of a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The information presented relates to a group of vessels, which used the TR2 gear during the reference period 2006-2008. The effort data and landings composition data for each of the vessels demonstrates that the activity of the vessels within the defined area is stable and that most is spent within the proposed area (all these vessels spent more than 75% of their time in the clyde and 63% of the spent more than 95%).

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The observed vessels are included in the list of vessels seeking exemption and observer data is available for all quarters. However, STECF notes that the level of observer coverage is low covering only 11 days during the entire reference period.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

STECF considers that the catch data collected and presented from the on-board observer scheme are potentially appropriate for evaluating whether the catch of cod is less than 1.5% for the reference period. However, STECF reiterates that the level of observer coverage is low and cod catches associated with one observer trip is in excess of the 1.5% threshold. Information on spatial activity of the vessels would help to ascertain whether catches under 1.5% could be routinely expected in this area.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

Given the general paucity of observer data, it is not possible to determine whether the mean cod catch rate of 0.92% is statistically significant. Inclusion of the full time series of observer data from the proposed area may allow for a statistical analysis. STECF notes that within the wider Clyde area, a spatial and temporal closure is in force to protect spawning aggregations of cod. STECF considers that landings data by statistical rectangle within the proposed area and adjacent ICES statistical rectangles would be useful in determining if the fishery is spatially decoupled from cod. In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

### **Fishery 3 - Queen Scallop fishery in the Irish Sea**

#### **Data Presented**

The UK authorities present a general technical description of the fishery in terms of the gears used and its spatial and temporal extent. Technical details of the individual vessels are provided (length, power, vessel name, national and CFR number). Annual cod landings data (2006-2008) and landings data aggregated across all species is presented and disaggregated at a monthly level. The associated kW days are also provided.

#### **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

STECF notes that the list of vessels presented with associated CFR numbers does not fully correspond with the files containing landings and effort data with national registration details. Therefore, STECF cannot conclude that these constitute a discrete group of vessels without further clarification.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

A generic description of the spatial and temporal extent of the fishery is provided. While landings data are provided, it is aggregated across all species, so it is not possible to determine if these vessels exhibit similarity in fishing pattern. No VMS or other spatial data (landings by statistical rectangle) are provided. The UK submission provides a generic description of the types of otter trawls used in the fishery, but these details do not permit the identification of technical attributes of the gear that could potentially separate this fishery from other otter trawl fisheries.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The UK submission notes that the fishery has not been sampled for discards and it therefore not possible for STECF to evaluate the catches of cod for this group of vessels.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessel ?*

The UK submission notes that the fishery has not been sampled for discards and it therefore not possible for STECF to evaluate whether cod catches are less than or equal to 1.5%.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

STECF notes that in order to fully evaluate the fishery in terms of cod catches, it is necessary that the UK authorities undertake a programme of catch sampling.

## **STECF General Comments**

The data presented shows that cod landings associated with the fishery are low and for the full data series presented, account for less than 0.013% of the total landings. However, STECF notes that the provisions of article 11 are based on information on catches. Until such data are presented, it is not possible for STECF to conduct a full evaluation based on these criteria. There is no spatial data presented other than a general summary of the area of operation. STECF suggests that where VMS data is available (vessels >15m) this should be presented to describe the spatial range of the fishery.

## **Fishery 4 - Eastern Irish Sea *Nephrops* fishery**

### **Data Presented**

The UK authorities identify a list of vessels (8) which are presented for consideration. Technical details of the individual vessels are provided (length, power, vessel name, national and CFR number). Annual cod landings data (2006-2008) and landings data aggregated across all species are presented and disaggregated at a monthly level, but are only provided for 7 out of 8 of the vessels. The associated kW days are also provided. Data from observer trips (39) from 2007 and 2008 are presented providing data on total landings and discards and cod catch (landings and discards). Spatial maps are also presented that identify the location of sampled hauls disaggregated to hauls where cod catches are above or below 1.5%. There is no data (identifier) presented to link the observed trips to the list of vessels seeking exemption.



## **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

STECF notes that the list of vessels presented with associated CFR numbers does not fully correspond with the files containing landings and effort data with national registration details. Therefore STECF cannot conclude that these constitute a discrete group of vessels without further clarification.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

No spatial or temporal data is presented to consider whether the group of vessels exhibit similar fishing activity. As landings data are aggregated across all species, it is not possible to assess whether catch composition could be used to identify similarity within the group.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

The location and catch data of the observed catches are documented. However, it is unclear whether the observer data are obtained from a sub-sample from the vessels seeking exemption and from how many as there is no common identifier that can link the observer data with the vessels. STECF notes that the observer data is spatially discrete, landings data is associated with ICES division VIIa. It is not possible for STECF to evaluate if the activity of the vessels is mainly constrained to the area covered by the observer data.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

STECF considers that the catch data collected and presented from the on-board observer scheme is potentially appropriate for evaluating whether the catch of cod is less than 1.5% for the reference period. The observer data presented shows that for the majority of the observed trips (75%) cod catches were maintained below 1.5%, with 50% of the trips demonstrating no cod catches. However, for 25% of the trips, cod catches exceeded 1.5% (range 1.54 – 14.5%). The aggregated catch data from the observer trips shows that cod catches account for 1.47% of the total catch. The absence of spatial information to show whether there is consistent decoupling of the fishery prevents a full evaluation.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

STECF considers that insufficient spatial data on the activity of the 8 vessels seeking exemption are presented, as landings are only reported at an ICES Division level (VIIa). Lack of an identifiable linkage between the observer trips and the individual vessels seeking exemption precludes STECF

from determining whether the observed data is representative of the overall group of vessels. In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

### **STECF General Comments**

STECF notes that further analysis and linking of the existing data could potentially identify a specific list of vessels, particularly if detailed spatial information is provided. However, STECF notes that on occasion the observer data indicates that cod catches do exceed the 1.5% threshold and this may indicate spatial overlap that precludes STECF from concluding that the fishery is spatially decoupled from cod in the area. Unless additional information is provided or that methods to technically decouple the fishery from cod, it is not possible to assess whether the low levels of cod catches are due to a true spatial decoupling or an artefact of the severely depleted nature of cod in the Irish Sea.

### **Fishery 5 - Eastern English Channel beam trawl fishery**

#### **Data presented**

The discard coverage indicates variable discarding (Tables 3.1 and 3.2), with some relatively high values. The maximum quarterly value observed was 68.7%. To account for this, only vessels, which recorded less than 0.5% of cod in their landings in both 2007 and 2008, are considered eligible. Roughly half of the beam trawlers that fished in 2007 and 2008 achieved this. Other beam trawlers recorded relatively higher catch rates of cod, amounting to up to 18.4% of their landings. There are clearly differences in fishing practice between the two sets of vessels but it has not been possible to identify them at this stage. Vessels considered eligible are given in the attached spreadsheet. Technical details of the individual vessels are provided (length, power, vessel name, national and CFR number). Annual cod landings data (2006-2008) and landings data aggregated across all species is presented and disaggregated at a monthly level. The associated kW days are also provided. Data from observer trips (39) from 2007 and 2008 are presented providing data on total landings and discards and cod catch (landings and discards). There is no data (identifier) presented to link the observed trips to the list of vessels seeking exemption.

#### **STECF conclusions and recommendations**

The STECF conclusions and recommendations are listed according to each of the specific elements of the request below:

*1. Do the data and information submitted permit STECF to identify a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply?*

The data and information presented relates to a group of vessels that are individually listed and for which relevant identifiers and vessel characteristics are provided. STECF therefore concludes that (subject to a small clarification – see under data presented above) the data and information submitted permits the identification of a discrete group of vessels to which the provisions of Article 11(2) of Council Regulation 1342/2008 of 18 December 2008 apply.

*2. Does the group or groups of vessels identified exhibit similar types of fishing activity during specific management periods within specific cod conservation area(s)?*

The information presented relates to a group of vessels, which used the BT2 gear during the reference period 2006-2008. However, the majority of vessels only operated in the area (VIId) for limited amounts of time throughout the year.

*3. Taking into account time period, spatial coverage and fishing pattern, are the observed catches of cod (landings and discards) considered representative of the catches of cod for the groups of vessels identified in the Member States' submission.*

STECF considers that insufficient spatial data of the activity of the 7 vessels seeking exemption is presented as landings are only reported at an ICES Division level (VIId). Lack of an identifiable linkage between the observer trips and the individual vessels seeking exemption precludes STECF from determining whether the observed data is representative of the overall group of vessels.

*4. Does the submission contain appropriate catch data for the groups of vessels identified to permit STECF to evaluate whether the catch of cod is less than or equal to 1.5% of the total catch for those vessels?*

STECF considers that the type of data collected and presented from the on-board observer scheme is not appropriate for evaluating whether the catch of cod is less than 1.5% for the reference period. Data from 10 observed trips (2004 – 2008) are presented but do not provide any evidence to determine what the percentage contribution cod makes to the overall landings. Only landings and discard weights of cod are presented with no information on other components of the catch. Even if catch data were available, the trip codes presented do not allow cross reference with the landings data presented and it is not clear if the data presented from the observer trips were obtained from any of the vessels in the application. STECF notes that the contribution that cod makes to overall landings is low based on the landings data presented. Conversely, the discard data presented also demonstrates that discard rates of cod can be high with annual rates of 60, 43, 1, 24 and 45% for 2004, 2005, 2006, 2007 and 2008, respectively.

*5. If STECF concludes that the data and information are insufficient to assess whether the catch of cod is less than or equal to 1.5% of the total catch for the vessel groups identified in the submission, STECF is requested to specify the data that are required in order to permit such an assessment.*

As the observer data is only presented in terms of cod discard rates with no data on total catch (all species combined) are presented it is not possible to assess how the cod catches from the observed trips relate to the criteria laid down in article 11. This data needs to be made available for consideration of this proposal. The lack of information to allow the linkage and relationship between the observed trips and the vessels seeking exemption needs clarification.

In order to assess the extent of spatial decoupling of the fishery and the cod stock, longer term spatial information is required on the percentage of cod catches, the period ideally including the time when the cod stock was above Bpa.

#### **5.7. Atlantic waters and bordering seas: Conditions regarding the release of common skate, undulate ray, white skate and angel shark**

##### **Background**

Common skate in EC waters of IIa, III, IV, VI, VII, VIII, IX and X, Undulate ray and White skate EC waters of VI, VII, VIII, IX and X and Angel shark in all EC waters may not be retained on board. Catches of these species shall be promptly released unharmed to the extent practicable.

Catches of Spurdog taken in absence of a quota or once the quota has been exhausted shall be promptly released unharmed to the extent practicable.

Fishers shall be encouraged to develop and use techniques and equipment which, following consultation of STECF, serve to facilitate the rapid and safe release of the species.

### **Terms of reference**

Due to the poor conditions of some skates, rays and sharks, Council Regulation (EC) N° 43/2009 of 16 January 2009 fixing for 2009 the fishing opportunities, addresses the conditions regarding the release of common skate, undulate ray, white skate and angel shark in all EC waters (annex III, point 19). These species may not be retained on board and catches shall be promptly released unharmed to extend practicable.

STECF is requested to suggest development and use of techniques and equipments which serve to facilitate the rapid and safe release of the species.

### **STECF response**

STECF notes that specific techniques and equipment are likely to be fishery (gear) dependant and these have not been defined in the request. However, the main gear types with potential interaction are considered to be fisheries using otter & beam trawls, static nets and longline gears. STECF makes the general comment that the development of specific techniques and equipments are likely to be conditional on a number of technical and procedural factors associated with fishing operations. Therefore, the ability of STECF to make specific recommendations is limited by a lack of detail relating to the fisheries concerned. Notwithstanding, some generic observations are given.

Studies conducted in the UK (Evener, *et al.*, 2009) have shown mean survival rates of 55% for four species of skates (Blonde, cuckoo, thornback and small-eyed ray). It is unknown how representative these survival rates are for the species identified in the request, but it is considered that, due to the lack of swim bladder, elasmobranchs are less likely to suffer fatal barotraumas in comparison to e.g. gadoids, and any mortality is likely to be primarily associated with other injuries sustained during the capture process and exposure time on deck. Damage is dependant on a number of factors and these may or may not lead to mortality. For the three gear types identified, damage will be associated with cuts and abrasions incurred through contact with the fishing gear itself and in the case of otter and beam trawls, other organisms in the catch.

For trawls, survival rates could potentially be increased through two main approaches. Reducing the amount of debris and overall bulk of the catch can reduce abrasions and other wounds (Mandelman and Farrington, 2007; Revill *et al.*, 2005; Evener *et al.*, 2009). This could be achieved through lowering the fishing time or adopting more selective gears such as benthic drop out panels (Revill *et al.*, 2005). Secondly, prompt return to the water during the catch sorting process will also help to maximise the survival rate. Reduced sorting times may also be a consequence of more selective gears or reduced fishing time and can therefore aid the speed of return. It should be noted that deck handling procedures differ considerably across vessels, so the ability for a particular vessel to increase the speed of sorting is dependant on the type of system used. STECF considers that there are no specific techniques available other than quick and prompt release that will aid survival of released fish coupled with mechanisms to reduce the bulk catch e.g. reduced towing time or technical measures aimed at reducing un-wanted catches. STECF notes that experiments are currently being undertaken to assess the efficacy of technical measures to reduce unwanted catch in

an attempt to increase survival rates of returned elasmobranchs in the UK (Channel Beam trawl fishery).

In bottom set gill nets fisheries, fish are generally removed as the nets are being hauled, rather than at the end of the hauling procedure. This is likely to result in a relatively short air exposure as the return time is relatively quick once the fish has been removed from the net. It is unlikely that the return speed could be shortened further as hauling speed is generally fixed. Provided that damage associated with cuts from the netting twine are not substantial, survival is likely to be high under normal operating conditions. Operationally, limiting soak time of the nets to the shortest time practical could enhance the number of fish retained that are alive during the hauling. STECF is unable to identify specific techniques or equipment to aid removal.

In longline fisheries, STECF notes that the main source of mortality of unwanted fish is associated with 'gut hooking' (ingestion of the hook/bait) and subsequent removal. Studies have shown that this may be mitigated through the use of circle hooks rather than conventional 'J' hooks. Studies associated with catch and release programmes for Atlantic tuna and Pacific salmon have both shown that circle hooks significantly reduce 'gut hooking'. However there is evidence that the use of circle hooks actually increases the incidence of shark captures. STECF further notes that there are a range of de-hooking tools used in recreational fisheries where catch and release programmes are established. And these may be appropriate for de-hooking small elasmobranchs. For larger elasmobranchs such as small sharks, it is possible that de-hooking tools mandated in several longline fisheries to aid release of marine turtles may be appropriate.

STECF comments that until specific details are obtained on the gear types and operational procedures of the fisheries concerned are received, it is not in a position to make detailed recommendations.

#### References:

Enever, R., Catchpole, T.L, Ellis, J.R. and Grant, A., 2009. The survival of skates (Rajidae) caught by demersal trawlers fishing in UK waters. *Fisheries Research*, 97: 72–76.

Mandelman, J.W., Farrington, M.A., 2007. The estimated short-term discard mortality of a trawled elasmobranch, the spiny dogfish (*Squalus acanthias*). *Fisheries Research* 83, 238–245.

Revill, A.R. and Jennings, S. 2005. The capacity of benthos release panels to reduce the impacts of beam trawls on benthic communities, *Fisheries Research* 75: 73-85.

### **5.8. Atlantic waters and bordering seas: Peer review of the report delivered by AZTI with a new HCR**

#### **Terms of reference**

STECF is requested to analyse the new harvest control rule prepared by AZTI and compare it to the former discussed rules. Furthermore, STECF should investigate the socio and economic implications of the new rule and compare it to the others.

#### **Background**

The Commission intends to make a proposal for a long-term management plan for the Bay of Biscay anchovy based on the following objectives to:

1. ensure the exploitation of the stock at high yields consistent with maximum sustainable yield;
2. guarantee the stability of the fishery, as far as possible, and with a low risk of stock collapse.

To provide the necessary scientific basis for a long-term management plan proposal for anchovy, two meetings of STECF Working Group on a long-term management plan for the stock of anchovy in the Bay of Biscay (ICES Sub-area VIII) took place in 2008. Results were evaluated in July 2008 by STECF and are reported in STECF (2008a, b).

The results were presented to the Pelagic Committee of the South Western Waters Regional Advisory Committee (SWWRAC). In July 2008, SWWRAC presented to the EC its support for adoption of Rule B with a harvest rate of 0.4 and with a TAC max of 33,000 t for the management of the anchovy fishery (CCR.Sud 2008). In addition the SWWRAC requested the EC to evaluate under the low recruitment scenario the biological risk associated with an additional HCR in which for SSB estimates between 24,000 and 32,500 t a constant TAC was adopted (TAC level was either 5000, 6000 or 7000t) and for SSB above 32,500 t the HCR B was adopted with the following modifications i) a harvest rate of 0.4 and ii) 25,000t maximum TAC.

The evaluation of the additional HCR (named as Rule E) requested by SWWRAC was addressed by AZTI and the results are presented in AZTI working document (ANNEX 7.1. No socio economical indicators were computed for the rule E since the SWWRAC request was restricted to the evaluation of the biological risk (probability of spawning stock biomass of being below  $B_{lim}$ ).

The methodology used to evaluate rule E was the same as that adopted by STECF which is described in previous STECF reports (STECF 2008a, b). The SSB break point of 32,500 t proposed by the SWWRAC was changed to 33,000 t because that is the  $B_{pa}$  value which triggered the inflexion point for reduction of the harvest rate in the STECF formulation of Rule B (Fig. 5.8).

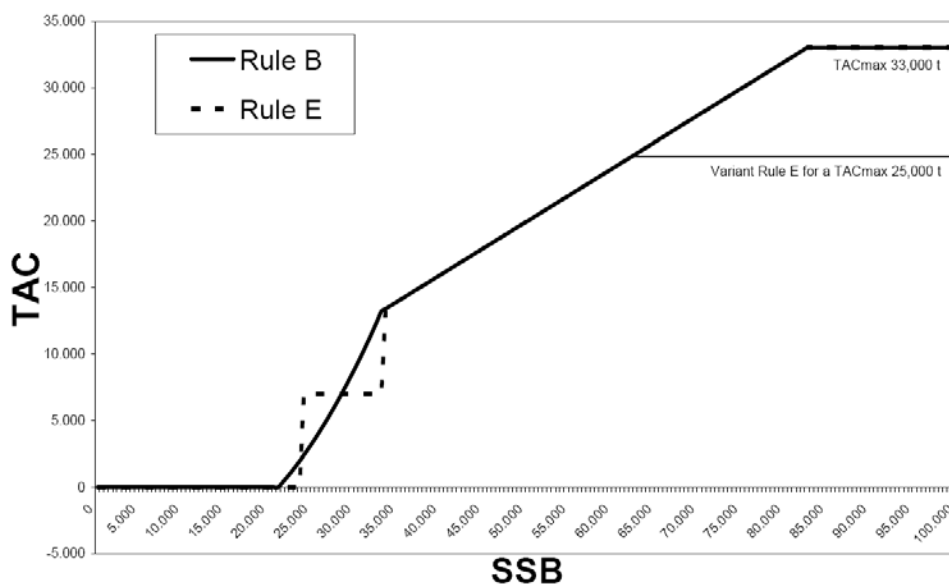


Figure 5.8 - Proposed TACs at different spawning stock biomass (SSB) of Rule B and of Rule E (SWWRAC alternative rule).

The main conclusions were:

- i) There are no differences in predicted TACs between the two HCR (Rule E and Rule B), except when the spawning stock biomass falls between 24.000 t (just above  $B_{lim} - 21.000t$ ) and  $B_{pa}$  (33.000 t). In this case in rule E, the TAC declines as a step function.
- ii) Under the constant low recruitment scenario, Rule E results in higher biological risks (probability of SSB being below  $B_{lim}$ ) and lower catches than assuming a Ricker recruitment model. In particular at a harvest rate of 0.4, assuming Ricker or low recruitment, the estimates of biological risk are 0.1 to 0.36 respectively and catches are 19,000 t to 5,400 t;
- iii) Under the Ricker recruitment scenario, both the biological risks and the probability of closures associated to Rule E reduce as the TAC max changes from 33000t to 25000 t; furthermore within each TAC max option, both the biological risks and the probability of closure increase with the increase of the harvest rate irrespective of the selected TAC min value (5000, 6000 or 7000t)
- iv) The performance of Rule E and Rule B do not greatly differ from each other at the two recruitment scenarios under recently estimated harvest rates.

### STECF comments

STECF notes that the new harvest control rule, referred as Rule E was proposed by SWWRAC as a possible alternative of Rule B, which was the one that received SWWRAC support for EC adoption. SWWRAC justified the proposal as a way to assure some minimum (economically) viable TAC level even at low SSB levels (but above  $B_{lim}$ ).

STECF also notes the procedure adopted by AZTI to analyze the request of the SWWRAC was the same as that adopted by STECF (2008 a, b).

STECF endorses the conclusions achieved by AZTI in relation to the comparison of performance (biological risk, probability of having the fishery closed, average catch and standard deviation of catches.) between Rule B and Rule E.

During the plenary, a simple economic analysis was undertaken based on catch revenues of the economic implications expected for Rule B and Rule E and only for SSB between 24,000t and 33,000 t which correspond to the range where the two Rules differ<sup>15</sup>. The discounted catch values for a discount rate of 1% and 5% were estimated to be:

1%:	Rule B:	348,742 thousand Euros
	Rule E:	354,084 thousand Euros (5,000 tonnes)
		351,981 thousand Euros (6,000 tonnes)
		352,379 thousand Euros (7,000 tonnes)
5%:	Rule B:	284,663 thousand Euros
	Rule E:	289,400 thousand Euros (5,000 tonnes)
		287,158 thousand Euros (6,000 tonnes)
		286,790 thousand Euros (7,000 tonnes)

<sup>15</sup> The analysis was performed by Raul Pallezo and Margarita Andrés (2009) and is included in Annex 7.1.

STECF notes that the discounted catch values only change to a minor extent under the different rules and TAC levels. However, the highest discounted catch value is obtained under Rule E with a TAC of 5,000 t. The analyses indicate that in terms of stock development and economic performance rules B and E give outcomes that are essentially the same.

## **5.9. International waters and RFMOs: Possible framework related to scientific advice on highly migratory stocks**

### **Background**

Participation at the Scientific Committees or Sub-committees of RFMOs has not been coordinated at the Commission level. Those Committees give scientific advice on highly migratory fish stocks which form the basis of the decisions taken by RFMOs.

In assessing stocks the Scientific Committee of RFMOs have encountered difficulties and failures as regards data transmission, notably by the EC, which difficult its work.

### **Terms of reference**

STECF is requested to discuss:

A possible framework to review stock assessment advice delivered by Scientific Committees of RFMOs.

- Improvement of scientific coordination as regards the EC participation in RFMOs.
- Evaluation of scientific data collection and transmission to RFMOs.
- A possible framework to support the Commission when discussions on stocks managed under international agreements have to be held, as it is the case for great pelagic stocks.

### **STECF response**

STECF recognised two specific but related requirements to improve the EC participation in the tuna RFMOs: (i) the need for improved scientific coordination at the RFMO meetings; and (ii) the need for improvements in the process by which data are submitted to RFMOs. To address these requirements, STECF proposed a range of options for consideration by the Commission.

### **Improved scientific coordination at RFMO meetings**

The Commission should select with the support of the STECF Board and Secretariat appropriate independent experts to form an EU Scientific Delegation to the Scientific Committee (or equivalent) of each of the relevant RFMOs. The EC Scientific Delegation will have a nominated head (Scientific Representative of the Community) and several (at least two) supporting scientists as needed. The Delegation should also act as the focal point for the scientists nominated by Member States to provide local coordination of scientific inputs from EU Member states during RFMO meetings with respect to fisheries under the competence of the Commission. In addition to the main scientific meetings, Members of the EC Scientific Delegation should also attend scientific working group and other scientific sub-group meetings of the RFMOs as needed. At least the head of the scientific delegation should attend the main Commission meeting to provide support to the EC Head of Delegation. The EC Scientific Delegation should be in contact with the DG-MARE officers as needed.



The EC Scientific Delegation should continue to function as a focal point for Community scientific inputs to the tuna RFMOs during the intersessional period, through email contact and holding coordination meetings as necessary. Assessments and advice from RFMOs regarding fisheries of concern to the EU are reviewed by STECF and published in its annual Review of Advice on stocks of Community Interest. In this regard, the EC Scientific Delegation to each RFMO could provide an initial report to STECF for review. The comments of STECF should also be provided to the delegation.

Intersessional requests for advice from the Commission could also be directed to STECF as necessary. Such requests would normally be dealt with under the Annual Review of Advice for Stocks of Community Interest or as a separate agenda Item for Plenum (Three per year). In exceptional circumstances, such requests may be dealt with by written procedure.

### **Improvements in the process by which data are submitted to RFMOs**

STECF did not have specific details of the difficulties and failures as regards the transmission of data from EU fisheries. The following proposals were made in the context of addressing problems than may arise at various steps in the process of data collection, compilation, verification and onward transmission to relevant RFMOs.

STECF emphasised that any new procedures for preparing data submissions should be developed in such a way that they do not create delays or other barriers that result in the Commission and/or Member States being unable to meet data submission deadlines and other obligations agreed to by the Commission and Member States.

STECF understands that routine activities necessary to collate and prepare data submissions to RFMOs carry on throughout the year within DG MARE. These activities should continue and be further supported to ensure that data submissions for EU fisheries are complete, accurate and timely, according to the requirements of each RFMO.

STECF proposed the establishment of an RFMO Data Workshop (DW) convened under the auspices of the STECF-SGRST, with the participation of the pertinent EC-DG MARE officers. The membership of this workshop would be decided under the rules adopted for convening STECF Working Groups.

The overall aim of the DW would be to support and ensure the compilation of an agreed set of input fishery-dependent and fishery-independent data and parameters from EU fisheries for contribution to the assessment of relevant stocks and fisheries covered by the tuna RFMOs. The terms of reference of the workshop should be to compile and quality check an EU data submission at the level of disaggregation required by the RFMO. An important pre-requisite for this activity is that Member States submit the data to the Commission in the format required by the RFMO concerned prior to the deadline established by DG MARE for each relevant RFMO.

Following the DW meetings, checked data would be provided to DG MARE for official submission to the RFMO. Any problems and difficulties encountered with data submission and receipt by the RFMOs should be relayed back to the DW.

The DW should produce a data report detailing how the data have been derived, the procedures and protocols used and any assumptions. Variance of data and parameter estimates should be reported. A summary data report should also be produced which contains the data and information at the appropriate level of disaggregation required by the relevant scientific committee of the RFMO and

note any deficiencies and uncertainties.. This summary data report could be submitted to the relevant RFMO Scientific Committee as appropriate and necessary.

The DW could be held under the auspices of the STECF-SGRST with adoption of the report by STECF ahead of submission of the summary data report to the relevant RFMO. The DW Chair would be agreed by the STECF Bureau (Commission, STECF Secretariat and STECF Board). The DW report should act as an aide memoire to subsequent data workshops and a record of how the data submission has been derived.

To enable input on a time scale appropriate for inputs into the RFMO scientific meetings, the meetings of the DW would need to be held ahead of the relevant RFMO data submission deadlines. Relevant timing for 2009 for selected RFMOs is provided below. STECF recognised the additional burden associated with holding DW meetings for each RFMO, although there is some scope for combining inputs into more than one RFMO in a single meeting. Nevertheless, to address immediate problems with specific RFMOs, the DW may need to meet several times during its first year of existence. In the longer term, however, this requirement may be reduced as problems are solved and the solutions are incorporated into the routine activities of DG MARE and the relevant Member States. At this stage, the DW could meet annually to review all data procedures, but not in advance of specific data submissions to the RFMOs. In this case the data submissions by DG MARE would continue in the routine way, but taking into account advice from the annual DW meeting.

**List of relevant RFMO meetings:**

ICCAT – International Commission for the Conservation of Atlantic Tunas

Data submission deadline 31 July

Scientific Committee (SCRS) species group 28 Sept – 2 October

SCRS Plenary 5-9 October

IOTC – Indian Ocean Tuna Commission

Data submission Unknown

Scientific Committee: December

Commission Meeting 30 March – 3 April

Species working parties for several species usually from July to October

IATTC - Inter-American Tropical Tuna Commission

Data submission Unknown

Commission meeting 8-12 June

Stock Assessment Review meeting 12-15 May.

WCPFC – Western Central Pacific Fishery Commission

Data submission deadline 30 April

Commission Meeting 7-11 December

CCSBT - Commission for the Conservation of Southern Bluefin tuna

EC is cooperating non member

Data submission deadline Non specified

Scientific Committee 6-11 September

Commission Meeting 20-23 October

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## **7. ANNEXES**

List of Annexes:

- 7.1 ANNEX FOR SECTION 5.8: COMPARISON BETWEEN RULE B AND E OF THE LTMP OF BOB ANCHOVY

## 7.1. Annex for section 5.8: Comparison between Rule B and E of the LTMP of BoB Anchovy

### Comparison between Rule B and E of the LTMP of BoB Anchovy

Prepared by

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AZTI-Tecnalia

April 2009

#### 1. Introduction

This document is just the compilation of some notes to understand the possible economic consequences of the application of different harvest control rules (HCR) in the long term management plan of the Bay of Biscay Anchovy.

The rules compared are:

**Rule B**, obtained from STECF (2008)

$$TAC_y = \begin{cases} 0 & \text{if } \hat{S}B_{y-1} \leq B_{lim} \\ \gamma \frac{(\hat{S}B_{y-1} - B_{lim})}{(B_{pa} - B_{lim})} \hat{S}B_{y-1} & \text{if } B_{lim} < \hat{S}B_{y-1} < B_{pa} \\ \gamma \hat{S}B_{y-1} & \text{if } \hat{S}B_{y-1} \geq B_{pa} \end{cases}$$

**Rule E**: Proposed by the RAC (CCR 2008)

$$TAC_y = \begin{cases} 0 & \text{if } \hat{S}B_{y-1} \leq 24000 \\ TAC_{min} & \text{if } 24000 < \hat{S}B_{y-1} < 33000 \\ \min\{\gamma \hat{S}B_{y-1}, TAC_{max}\} & \text{if } \hat{S}B_{y-1} \geq 33000 \end{cases}$$

In both cases  $\hat{S}B_{y-1}$  is the biomass estimated from the spring surveys and  $\gamma$  is a constant parameter to be set. And TAC is applied from subsequent July to June next year. TAC<sub>y</sub> is the Total Allowable Catch for a management year y going from July to June. TAC<sub>min</sub>, the minimum viable TAC level, is either 5000 t, 6000t or 7000t.

The biological reference points  $B_{lim}$  and  $B_{pa}$  correspond to 21,000 and 33,000 tones respectively.



In July 2008, SWWRAC passed to the EC its support for adopting Rule B with a harvest rate of 0.4 and with a TAC max of 33,000 t for the management of the anchovy fishery (CCR 2008). In addition the SWWRAC requested the European Commission to evaluate under the low recruitment scenario the biological risk associated to an additional HCR in which for SSB estimates between 24,000 and 32,500 t a constant TAC of 5000, 6000 or 7000t would be set and in which for SSB above 32,500 t the HCR B with a harvest rate of 0.4 and a TAC maximum of 25,000 t would be applied. Notice that the aim of such proposal was to assure some minimum (economically) viable TAC level even at low SSB levels (but above  $B_{lim}$ ).

## 2. Differences between both rules

- Both rules perform similarly (see Figure 1).

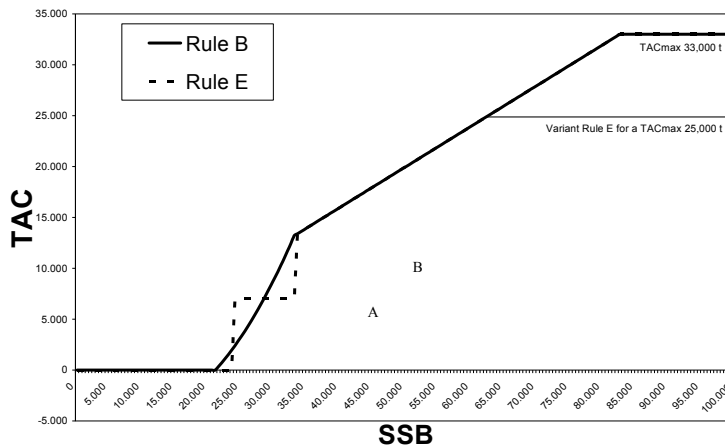


Figure 1 illustrates how the new proposed rule (Rule E) sets TACs at different spawning stock biomass (SSB) levels in comparison with Rule B. Rule E is equal to Rule B except for having a discontinuous step like decline in catches when the spawning stock biomass falls between 24.000 t (just above  $B_{lim}$ ) and  $B_{pa}$ .

To understand the difference between the rules we only have to compare area A with area B. For the possible range of SSB where the rules are different (21000-33000 tonnes) area B is always higher than A. That is for a uniform distribution of observations along this range rule B always provides higher catches than rule E.

In any case the final result will depend on the number of times that whatever the rule used, biomass is located on area A and area B.

- Evolution of revenue

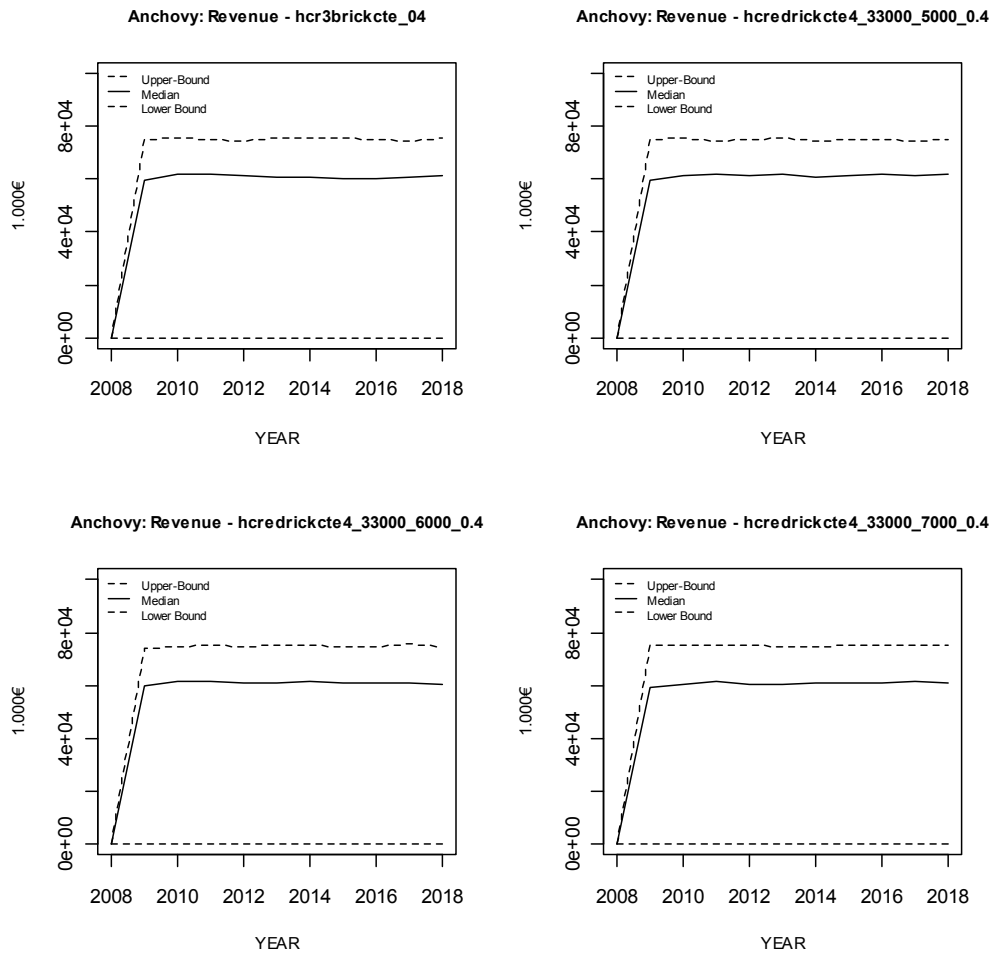


Figure 2 illustrates the revenue obtained from rule B (hcr2) and rule E (hcr 4) for different minimum levels (5000, 6000 and 7000 tonnes) for a harvest rate of 0.4.

Average catches are similar and hence average revenues will be the same. The only difference will come in the first three years of the simulation where the biomass is under the area B of Figure 1. It implies that rule B is given higher catches in the first two years of the simulation and slightly lower in the last years than rule E.

The same results have been obtained but in terms of the discounted revenue and for two discount rates (0.01 and 0.05) (see Figure 3 and 4)

Discount Rate = 0.05

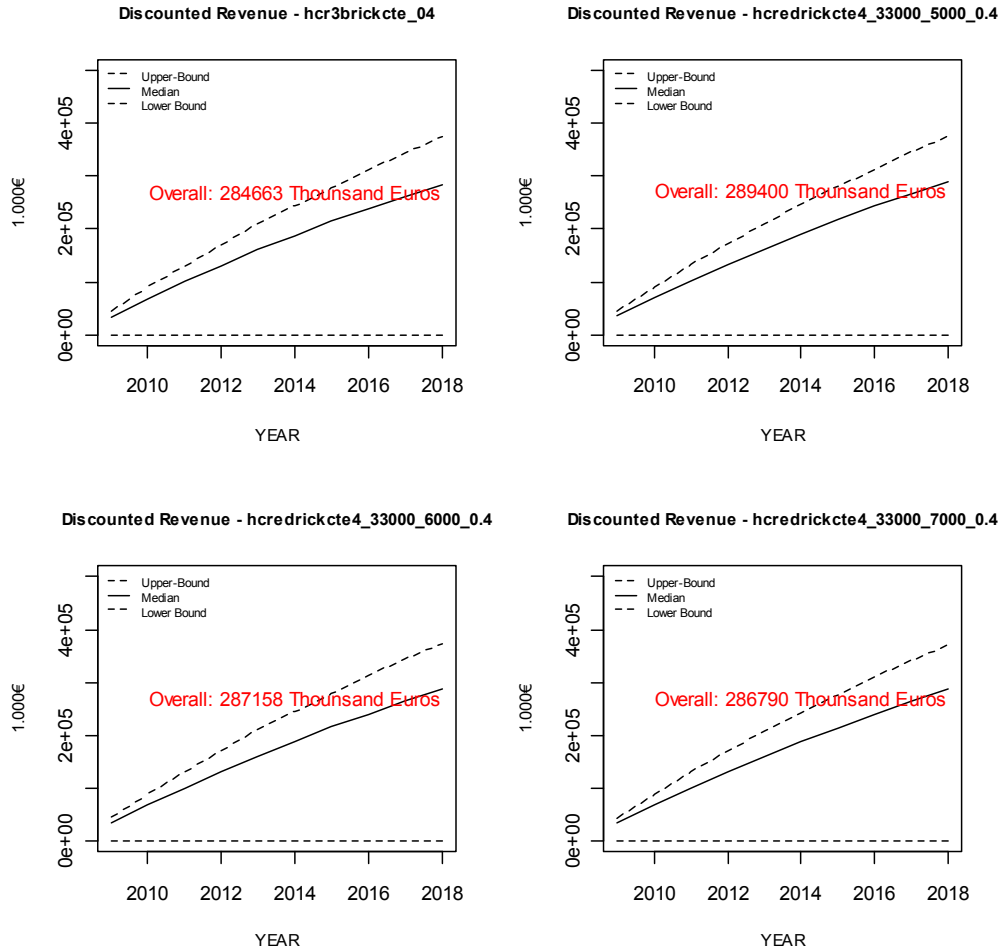


Figure 3 illustrates the discounted revenue obtained from rule B (hcr3) and rule E (hcr 4) for different minimum levels (5000, 6000 and 7000 tonnes) for a harvest rate of 0.4 and a discount rate of 0.05. The value in red stands for the summation of this discounted value along the simulation period.

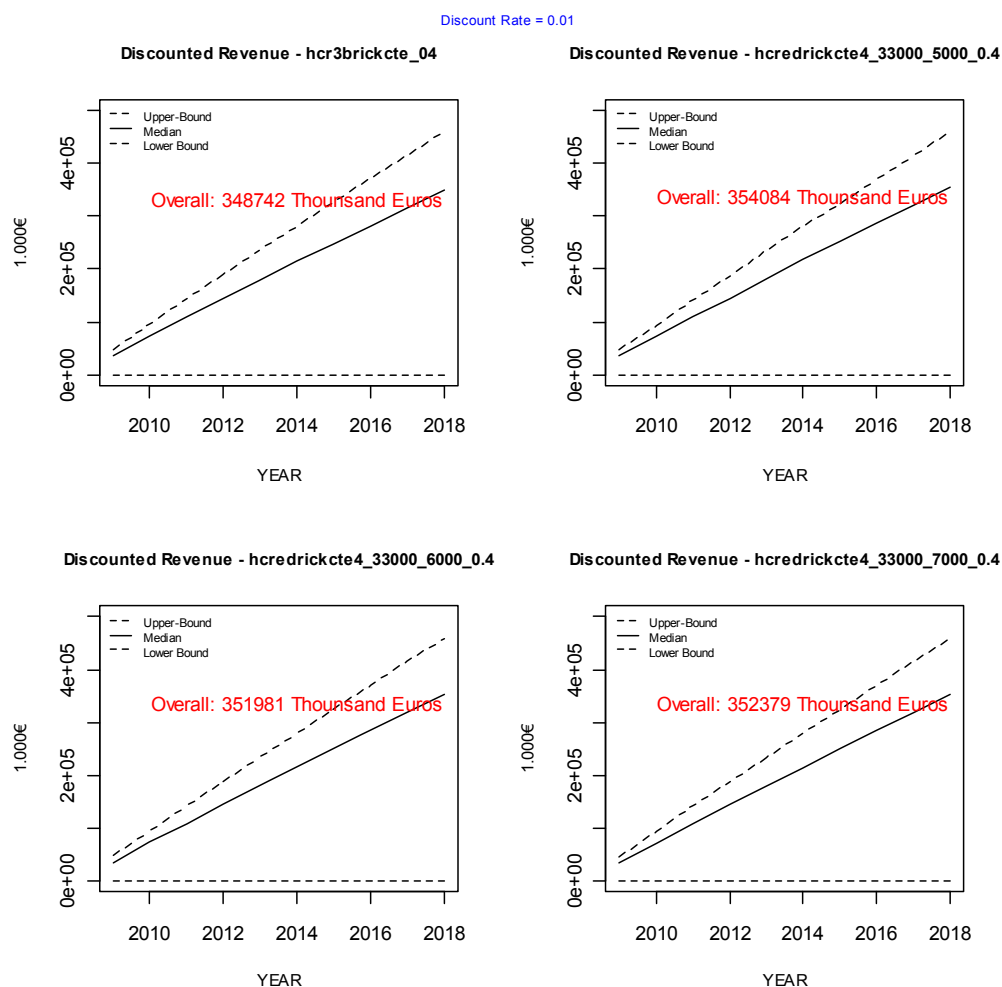


Figure 4 illustrates the discounted revenue obtained from rule B (hcr3) and rule E (hcr 4) for different minimum levels (5000, 6000 and 7000 tonnes) for a harvest rate of 0.4 and a discount rate of 0.01. The value in red stands for the summation of this discounted value along the simulation period.

In both case results show how Rule E is giving a higher discounted value than rule B and in particular for both discount rates the maximum discounted revenue is obtained when the minimum is set at 5000 tonnes.

### 3. References

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**Abstract**

The Scientific, Technical and Economic Committee for Fisheries hold its 30<sup>th</sup> plenary on 20-24 April 2009 in Galway. The terms of reference included both issues assessments of STECF working group reports and additional requests submitted to the STECF by the Commission. Topics dealt with ranged from fisheries economics to management plan evaluation issues.

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